CITY PLANNING COMMISSION

November 3, 2003/Calendar No. 2 C 030509 HUQ

IN THE MATTER OF an application submitted by the Department of Housing Preservation and Development, pursuant to Section 505 of Article 15 of the General Municipal (Urban Renewal) Law of New York State and Section 197-c of the New York City Charter, for the 2nd amendment to the Arverne Urban Renewal Plan for the Arverne Urban Renewal Area, Borough of Queens, Community District 14.

The application for the second amendment to the Arverne Urban Renewal Plan was filed by the Department of Housing Preservation and Development on June 4, 2003, to facilitate the construction of 3,900 residential units consisting of low density one-and-two-family homes and mid-rise buildings, the establishment of 770,000 square feet commercial and retail space, approximately 65 acres of parkland, a community center and school. The Arverne Urban Renewal Area is generally bounded by Rockaway Freeway to the north, Beach 32nd Street to the east, the Boardwalk, Rockaway Beach Boulevard, and Hammels Boulevard on the south, and Beach 74th, Beach 81st and Beach 84th Street to the west in Rockaway, Queens Community District 14.

The proposed plan:

1. Conforms to current HPD language, terminology and methodology.
2. Places restrictions on the total amount of residential units and commercial space.
3. Enhances the protection for the natural resources in this environmentally sensitive area by designating open space sites for nature preserves along the oceanfront and in the central park.
4. Implements some elements of the 1990-approved but not filed City map change (900151MMQ) as well as other necessary modifications. These changes include demapping,

reconfiguring, realigning and mapping new streets in the urban renewal area.

5. Removes all previously designated "Q" and "X" parcels from the Plan.

6. Modifies site numbers to reflect the current development plan.

RELATED ACTIONS

In addition to the second amendment to the Arverne Urban Renewal Plan which is the subject of this report, implementation of the proposed development also requires action by the City Planning Commission on the following applications which are being considered concurrently with this application:

1. C 030433 MMQ	Amendment to the City map involving the mapping, demapping, and alteration of streets and parks.
2. C 030510 ZMQ	Changes in zones from R6 to R6/C2-4, from R6/C2-4 to R6, from R6 and R6/C2-4 to C4-4, and establish R6 on demapped park.
3. C 030511 HAQ	UDAAP designation, disposition, and project approval pursuant to Article 16 of the General Municipal Law.

BACKGROUND

This application (C 030509 HUQ) is the Second Amendment to the Arverne Urban Renewal Plan and is proposed with three other applications (C 030433 MMQ, C 030510 ZMQ, and C 030511 HAQ) by the Department of Housing Preservation and Development to facilitate the development of the Arverne Urban Renewal Area.

The Arverne URA is approximately 308 acres and is generally bounded on the north by the northern side of Rockaway Freeway between Beach 32nd Street and Beach 84th Street; on the east by Beach 32nd Street; on the south by the boardwalk between Beach 32nd Street and Beach 74th Street, Rockaway Beach Boulevard between Beach 74th and Beach 81st streets, and Hammels Boulevard between Beach 81st and Beach 84th streets; and on the west by Beach 84th street and Beach 74th street. It is located on the Rockaway Peninsula in Queens, Community District 14.

In 1968 the area was designated as an urban renewal area to facilitate the development of new housing. The plan contemplated the removal of structurally substandard housing for development of new low- and moderate-income housing. In the early 1970's the City acquired and cleared most of the Arverne URA for redevelopment. Between 1972 and 1974 the New York State Urban Development Corporation built Ocean Village, a 1,092 residential development in the central portion of the area. Between 1973 and 1975, the City built Seaview Towers, two buildings containing 460 dwelling units. In 1978, three two-family homes were built across from Ocean Village through a HUD program.

Based on a development feasibility study completed in 1987 by the Department of City Planning, HPD and DCP concluded that the construction of low- and moderate-income housing stipulated in the 1968 plan was no longer desirable or feasible. By 1986, half of the subsidized housing in Queens was located on the Rockaway Peninsula and construction of additional low- and moderate-income housing in Arverne would only increase the proportion. In 1988 the City issued a request for proposals, and a developer was selected to build a new community in Arverne, which would have consisted of

approximately 10,000 residential units, 380,000 square feet of commercial space, 274,000 square feet of community facility space, two new 1,000 seat elementary schools, and seven new parks.

In 1990 the Board of Estimate approved an amendment to the urban renewal plan (C900215 HUQ) which revised the entire land use plan contained in the 1968 Plan but retained the plan's primary housing focus. It also included the acquisition of 23 properties (C900299 HDQ) that were excluded in the 1968 Plan. It limited the amount of commercial floor area that could be developed, and it limited residential development in the Arverne URA to 7,500 dwelling units.

In 1990, the Board of Estimate also approved changes to the Zoning Map (C900162 ZMQ) and City Map (C900151 MMQ). The 1990 approvals were to facilitate the development scenario selected from the 1988 RFP. While the changes to the Zoning Map became effective, changes to the city map did not. Also, in 1990, the Board of Estimate also approved the conveyance of the land to the selected developer for redevelopment (C900216 HDQ). Due to the high cost of infrastructure and the poor real estate market, the project was never built.

Since 1990, several development projects and other decisions have been approved for the urban renewal area. In 1999, the City Council approved the development of Phase 1 of the Water's Edge project, consisting of the development of 78 units of infill housing.

In December 2000, HPD issued a new RFP for the western undeveloped portion of the Arverne URA.

The RFP was designed to provide much needed housing and commercial/economic activity. The RFP reduced the number of dwelling units and increased the amount of commercial floor area. The increase in commercial floor area was intended to address community preference for new development that would provide economic opportunities to residents. The RFP sought the development of housing at a lower density and type that has recently been successfully built in the surrounding area. In November 2001, HPD selected one of the proposals to develop the western half of the area.

The Arverne URA has been divided into three sections which would be conveyed to separate private/public entities and would be developed in separate phases. The three sections are, (1) the Western Portion, (2) the Eastern Portion and (3) the Central Portion.

The western portion consists of approximately 129 acres and is bounded by Rockaway Freeway, the Boardwalk, Beach 59th Street and Beach 81st Street. Within this portion the Arverne-by-the-Sea development will be constructed on 78 acres, and Phase II of the Water's Edge project, a beachfront preserve, public streets and parking will be developed on the remaining acreage.

Arverne-by-the-Sea, the development proposal chosen from the RFP issued in 2000, is a new residential community that was designed as a beach and transit oriented community. The development would include local neighborhood retail, a community recreation center, and an 800-seat charter school. The project would consist of four residential neighborhoods and approximately 2,300 dwelling units, with 1,070 units in one- and two-family homes and 1,138 dwelling units in mid-rise apartment

buildings. The residential communities are each centered around a tract of communal open space. The public and private street system is designed to provide direct access to residences and public amenities while encouraging pedestrian traffic. The community is designed with an extensive range of public amenities, which include the construction of 270,000 square feet of retail space and a 30,000 square foot community recreation center, and a network of open spaces that is accessible to the public. The center of the community will be the transit plaza oriented around the existing Beach 67th Street subway station. The proposed main street will extend from the subway station to the beach. This main corridor will be developed as retail/residential mixed-use and proposed uses include beach-oriented retail, neighborhood retail, and food establishments.

Water's Edge Phase II will be developed on six blocks between Beach 62nd and Beach 59th streets with approximately 122 dwelling units.

The central portion located between Beach 44th Street and Beach 56th Place, will be developed as a nature preserve and would be publicly accessible only along a network of boardwalk paths extending throughout the park. This preserve will be developed by the developer selected for the eastern portion and jurisdiction will be given to Department of Parks and Recreation to maintain it.

The eastern portion section consists of approximately 81.5 acres and is located between Beach 32nd and Beach 44th Streets. HPD intends for this area to be developed with approximately 500,000 square feet of commercial space, 1,500 residential units and a shoreline preserve by a developer selected

through the issuance of an RFP.

Surrounding Area

The surrounding area contains a variety of residential uses, including one- and two-family homes, small multi-unit structures, mid-rise and high-rise developments. The area consists of low-density residential zoning districts with scattered commercial overlays; C3 and M1-1 districts are found north of the Arverne URA and along Jamaica Bay.

The Edgemere Urban Renewal Area is located north of the elevated IND A line between Beach 35th Street and Beach 51st Street and it directly abuts the northern boundary of the Arverne Urban Renewal Area. The area was designated in 1997 and plans include construction of 667 units of subsidized middle-income housing, commercial and community facility development. The first phase of the construction began in 2002.

Proposed Amendment to the Urban Renewal Plan (C 030509 HUQ)

The Second Amendment to the Arverne Urban Renewal Plan (C030509HUQ) substantially amends the existing plan; however, the predominant residential uses that were the focus of the 1968 and 1989 Plans have been retained in the Second Amended Plan. The Arverne Urban Renewal Area is being re-mapped and rezoned to reflect the current plans for the area. The proposed second amended plan limits residential development to 3,900 dwelling units and total commercial development to 770,000 square feet. The First Amended Plan, adopted by the Board of Estimate in June 1990, required two

new public schools to be built, but the proposed plan would require only one new school. The proposed plan conforms to current HPD language, terminology and methodology. The Second Amended Urban Renewal Plan enhances the protection for the natural resources in the environmentally sensitive areas by designating open space sites for nature preserves along the oceanfront and in the central park. The second amendment also remove all previously designated "Q" and "X" parcels from the plan and it modifies site numbers to reflect the current development plan.

Proposed City Map Amendments (C 030433 MMQ)

The applicant proposes changes in the City Map involving the elimination, discontinuance and closing; the narrowing, widening or the re-alignment; and the establishment of several streets; the elimination of approximately 32 acres of parkland and the establishment of approximately 59 acres of parkland. The change to the city map will eliminate or realign various existing streets and establish several new streets. Beach 73rd Street, Rockaway Beach Boulevard and Shore Front Parkway will be used as the main thoroughfare connecting to Shore Front Parkway, Cross Bay Boulevard and Seagirt Boulevard. Only a few of the existing north-south streets will be retained to provide access to the existing developments and public facilities. A network of private streets and pedestrian walkways will allow access to the rest of the site. The new comprehensive street system and parks are specifically designed to take advantage of the site's beach-front location, to provide public access to the beach and the Boardwalk and to provide security for the residents.

The approximately 308-acre urban renewal area is composed primarily of vacant city-owned land fronting on the Atlantic Ocean with several businesses, institutions, and residences scattered across it. Many of the streets proposed to be eliminated from the City Map are city-owned and either undeveloped or partially developed.

Some of the parkland within the Arverne URA is also proposed to be eliminated from the City Map and replaced with much larger parkland. The new parkland will include 35 acres of central nature preserve and 24 acres of dune preserve. The central nature preserve will divide the site into east and west ends. While the construction in the west end of the site has already begun, the development of the east end is expected to begin later and be completed by 2009.

An interagency conference was held on May 2, 2003. No agencies or utilities expressed any objection to the proposal.

Proposed Zoning Amendment (C 030510 ZMQ)

Currently most of the entire urban renewal area is zoned R6 with C2-4 overlays mapped in portions of the R6 district. This zoning pattern reflects the uses and placements of streets contemplated in 1990 by the approved, but unfiled city map. This application proposes zoning changes that adapt zoning designations to the proposed development and street layout.

Under the proposed zoning, the majority of the site would continue to be zoned R6 but the locations of the C2-4 overlay would change. Currently C2-4 overlays are mapped along the formerly proposed

east-west streets and along several north-south streets. The newly proposed placements of the overlay would be more concentrated and would reflect to the newly proposed street plan. This commercial overlay would be mapped along the north side of Rockaway Beach Boulevard, between Beach 67th Street and Beach 69th Street south of Rockaway Beach Boulevard to the new Beach Front Drive. A smaller C2-4 overlay would be mapped on the north side of Rockaway Beach Boulevard between Beach 79th and Beach 80th streets.

The R6 zoning district allows medium density residential use with a maximum permitted floor area ratio (FAR) of 2.43. The R6 zoning district also permits community facilities. For community facility development in an R6 district, the maximum permitted FAR is 4.80. The C2-4 commercial overlay district accommodates local retail and service establishments within residential uses. Within the C2 overlays, commercial development is permitted with a maximum FAR of 2.0.

In the eastern end a C2-4 overlay would be mapped along Beach 35th Street south of Rockaway Beach Boulevard, along the west side of Beach 34th Street and the north side of a newly proposed mapped street; along the north side of the new southern roadway generally between Beach 35th Street and Beach 36th Street; and along the south side of Shore Front Parkway generally between Beach 32nd Street and Beach 36th Street, except for an area proposed to be designated C4-4. The proposal would change the existing R6 district to a C4-4 district between Shore Front Parkway, Beach 35th Street and Beach 44th Street north of the dunes preserve and would continue eastward to Seagirt Boulevard. Between Beach 34th Street and Beach 35th Street the C4-4 would cover the south side of Shore Front Parkway to a depth of 100 feet. C4 districts are general commercial districts that permit residences and community facilities as well as commercial uses. In the proposed C4-4 district the maximum permitted commercial FAR is 3.4. For residential or community facility development, the bulk regulations are

those of an R7 district, however the Second Amended Urban Renewal Plan would restrict residential and community facility development to the bulk regulations applicable to the R6 district that includes a maximum permitted FAR of 2.43. The new commercial zoning districts in the eastern portion are intended to facilitate the development of approximately 500,000 square feet of commercial space.

Between Beach 73rd and Beach 77th streets, the boundary between the R6 and M1-1 districts would be moved northward to the project site boundary. The portion currently zoned M1-1 would be rezoned R6. The portion of the Arverne URA bounded by Beach 77th Street, Hammels Boulevard, Beach 84th Street and Rockaway Freeway currently zoned M1-1 would be developed under the auspices of the New York City Economic Development Corporation (EDC).

UDAAP Designation (C 030511 HAQ)

In conjunction with this rezoning, HPD is seeking UDAAP designation and project approval and disposition of city-owned property for 123 parcels within the Arverne Urban Renewal Area for the disposition to a developer to be selected by HPD.

ENVIRONMENTAL REVIEW

This application (C 030509 HUQ), in conjunction with the applications for the related actions (C 030433 MMQ), (C 030510 ZMQ) and (C 030511 HAQ), was reviewed pursuant to the New York State Environmental Quality Review Act (SEQRA), and the SEQRA regulations set forth in Volume 6 of the New York Code of Rules and Regulations, Section 617.00 et seq. and the New York City Environmental Quality Review (CEQR) Rules of Procedure of 1991 and Executive Order No. 91 of

1977. The designated CEQR number is 02HPD004Q. The lead agency is the Department of Housing Preservation and Development.

It was determined that the proposed action may have a significant effect on the environment, and that an environmental impact statement would be required for the following reasons:

1. The potential for significant impacts to social and economic conditions.
2. The potential for significant impacts to community facilities and services.
3. The potential for significant changes to neighborhood character.
4. The potential for open spaces and recreational facilities to be significantly impacted.
5. The potential for the project to generate shadows impacts.
6. The potential for significant changes to natural resources.
7. The potential for significant changes related to shoreline erosion and sea level.
8. The potential for significant impacts to waterfront revitalization.
9. The potential for significant adverse impacts from hazardous materials.
10. The potential for substantial changes to traffic and transportation.
11. The potential for significant adverse effects to air quality.
12. Potential for significant noise impacts.

A Positive Declaration was issued on April 26, 2002, and distributed, published and filed, and the applicant was asked to prepare or have prepared a Draft Environmental Impact Statement (DEIS).

The applicant prepared a DEIS and issued a Notice of Completion on June 13, 2003. Pursuant to the SEQRA regulations and the CEQR procedures, a joint public hearing was held on the DEIS on September 24, 2003, in conjunction with the public hearings on the Uniform Land Use Review Procedure (ULURP) items (C 030433 MMQ), (C 030509 HUQ) (C 030510 ZMQ), and (C 030511

HAQ). The Final Environmental Impact Statement (FEIS) was completed, and a Notice of Completion of the FEIS was issued on October 24, 2003. The Notice of Completion for the FEIS identified the following significant impacts and proposed mitigation measures described below.

PROBABLE IMPACTS OF THE PROPOSED ACTION AND MITIGATION

No potentially significant adverse impacts were identified for land use, zoning, and public policy; social and economic characteristics; community facilities and services; urban design and visual resources; neighborhood character; historic resources; waterfront revitalization; infrastructure and solid waste; air quality; or public health. The potential for significant adverse impacts has been identified for open space and recreational facilities, shadows, natural resources, hazardous materials, traffic and transportation, and noise. For these latter six categories, the potential impacts and suggested mitigation measures are identified below.

Open Space and Recreational Facilities

The Proposed Action would amend the City Map to eliminate approximately 15.3 of the existing 22.0 acres of mapped but unimproved parkland on the Project Site and to map approximately 52.3 acres of new parkland. There would thus be a net gain of approximately 37 acres, bringing the total to 59.0 acres.

Improvements would be made to create three park areas within the Site. One would be an 8.5 acre beachfront preserve in the Western Portion of the Site, located between the boardwalk and the new Beach Front Road from Beach 60th Street to Beach 73rd Street. Another would be a 35.0 acre nature preserve occupying the Central Portion of the Site between the boardwalk and Shore Front Parkway, from Beach 44th Street to Beach 56th Place. The third would be a 15.5 acre beachfront preserve in the Eastern Portion of the Site, from Beach 32nd Street to Beach 44th Street, between the boardwalk and either Ocean Front Road or, where the road is not mapped, a line approximately 50 feet north of the currently mapped Coastal Erosion Hazard Area line. The central park would be publicly accessible

along a network of looped trails extending throughout the park. The beachfront preserve would not be publicly accessible, elevated walkways would be provided across them to provide access to and from the beach and boardwalk. All three parks would be under the jurisdiction of the New York City Department of Parks and Recreation (DPR).

Within the Western Portion, a number of private but publicly accessible open spaces would be created as part of the Arverne-by-the-Sea development, totaling approximately 5.3 acres. These spaces, together with the 35-acre central park, mean that the Proposed Action would result in the creation of approximately 40.3 acres on new publicly accessible open space on the Project Site.

These changes to the inventory of parkland and open space would constitute a benefit of the Proposed Action.

The proposed project would also affect the demand for open space resources by adding approximately 13,000 new residents to this portion of the Rockaway Peninsula. An assessment was therefore made of the adequacy of available publicly accessible open space to serve the residential population within a study area that extends roughly half a mile around the edges of the Project Site, adjusted to coincide with census tract boundaries.

A quantitative assessment was performed, computing the ratio of open space acreage to population. The overall ratio would decline slightly as a result of the proposed project but continue to exceed the City goal of 2.5 acres per 1,000 persons, in both 2007 and 2009, indicating that the overall amount of open space would be quite adequate to serve the needs of the area's populations. The ratio for open space serving active recreational needs, however, would decline from 1.30 acres per 1,000 residents without the project (in both 2007 and 2009) to 1.16 acres per 1,000 residents in 2007 (an 11 percent decline) and 1.08 acres per 1,000 residents in 2009 (a 17 percent decline). In 2007 this ratio would be slightly below, and in 2009 it would be clearly below, the benchmark of 1.2 acres per 1,000 persons, based on the median ratio of total open space to population in New York City and the planning goal for the ratio of active to passive open space, which serves as a minimum standard of adequacy for CEQR purposes.

A quantitative assessment was also performed, based partly on a survey of utilization levels done subsequent to completion of the DEIS. Observations indicate that the area's open space resources are currently adequate to serve the various user groups, without any overcrowding of facilities. The study area has an ample supply of children's playgrounds and basketball and handball courts, and these are well distributed throughout the study area. Larger active recreational facilities such as ballfields and tennis courts are concentrated at two parks located along the fringes of the open space study area, Rockaway Community Park Playground and in Michaelis-Bayswater Park.

Since the area's active open space resources are not now close to being overburdened, but rather receive only moderate use, since the available facilities are sufficiently varied to serve all age groups,

since the active open space ratio would still be very close to the benchmark of 1.2 acres per thousand residents (indeed, rounded to the nearest tenth of an acre, would be 1.2 acres per thousand residents), and since the first phase of the project would also add new private membership indoor and outdoor active recreational facilities, the reduction in the active open space ratio caused by the first phase of the project would not constitute a significant impact.

Qualitative issues aside, by 2009 the project-induced increase in study area population and the consequent reduction in the active open space ratio would be great enough to constitute a significant impact. The fact that the area's facilities now receive only moderate use would have limited relevance in the face of an almost 40 percent increase in study area population (including residents of unrelated future developments in the area) and an increase of only 3.3 acres (4 percent) of active open space. The impact would be greatest on the availability of large sports facilities such as ballfields and tennis courts, which serve young adults and teenagers, since such facilities are already in short supply.

To avoid this potential impact, three additional active open space facilities would be created within the study area.

One is the J.H.S. 198 playground on Arverne Boulevard between Beach 56th and 57th Streets, a block north of the Arverne URA between the Western and Central Portions of the Site, which is currently closed due to crumbling of its asphalt surface, with no funding available for repair of the playground. An Arverne project developer (either the Arverne-by-the-Sea developer or the developer of the Eastern Portion) would fund the restoration of this playground, which is 2.1 acres in size and would be under the joint jurisdiction of DPR and DOE. It would probably contain basketball courts, but might instead contain a softball or soccer field.

The second would be an unimproved 1.66 acre DPR property at the northeast corner of Thursby Avenue and Beach 63rd Street, two blocks north of the Western Portion of the Project Site. It would contain a par course, which is a track (for running or jogging) with various types of exercise equipment available at stations along the track. This is a type of facility that has been specifically requested by members of the community. Construction of this facility would be funded by the Arverne-by-the-Sea developer, and the public open space would be under the jurisdiction of DPR.

The third would be an approximately 2.5 acre DPR property on the east side of Beach 32nd Street south of Surf Avenue, across the street from the Eastern Portion of the Site. It is currently paved for use as a parking lot, but would be developed as a soccer or softball field. Construction of this facility would be funded by the Eastern Portion developer, and the public open space would be under the jurisdiction of DPR.

The three facilities, distributed geographically about the Project Site, would add a variety of active recreational facilities for teenagers and young adults, including at least two larger facilities of the sort that are now in short supply in the study area. They would collectively add approximately 6.3 acres of

active open space, raising the study area's active public open space acreage to approximately 86.3 acres. There would be 1.17 acres of active public open space per 1,000 residents. This would be just slightly below the benchmark of 1.2 acres per 1,000 residents.

In the future with the project in 2007, the publicly accessible open space would be supplemented by a new private recreational center with 1.6 acres of outdoor sports fields, created as part of the Proposed Project in the Western Portion of the Site. As requested by the community, another mitigation measure would be to make the center's ballfield available to local Little League teams, and this measure would be implemented. Although the facility would still not be open to the general public and would thus not be included in the public open space inventory for purposes of the quantitative assessment, this measure would extend the ballfield's availability to additional study area residents, other than those willing and able to pay the center's private membership fees. If the sports fields were to be included, the ratio of active open space per 1,000 residents would be 1.19 acres.

These measures would be sufficient to mitigate the significant adverse open space impact. Quantitatively, the active open space ratio would not be significantly below the benchmark of 1.2 acres per 1,000 residents used for CEQR purposes. Qualitatively, the available facilities would be sufficiently varied to serve all age groups, would all be in good condition, and would all be easily accessible, within an area in which private yards, recreational facilities on the grounds of private housing developments, and unprogrammed open spaces on the grounds of both public and private housing developments all supplement the public open space inventory.

Shadows

Shadow diagrams were prepared for four existing or proposed shadow sensitive locations on or near the Project Site, and they revealed that the project would have a potential impact on one of the locations, the P.S. 106 playground that fronts on Beach 34th Street. Since P.S. 106 is an out parcel within the Eastern Portion, for which no development plan yet exists, a worst case was determined on the basis of the proposed public street system and the maximum building heights permitted by the Second Amended Urban Renewal Plan and the RFP for the Eastern Portion. Under these worst-case assumptions, the new buildings to the east and, to a lesser extent, to the south of the school property would cast extensive shadows over the playground. On May 8 and June 21, the only shadows would be in the morning. At 9 AM approximately the eastern third of the schoolyard would be in shadow. In March and September, more than 70 percent of the playground would be in shadow at 9 AM, and shadows would fall on the southern edge of the playground throughout the day. On December 21 shadows would cover the entire schoolyard at 9 AM, and most of the schoolyard would remain in shadow all day. In summary, substantial shadows would be cast on the playground during most of the school year (from September until sometime during the spring), and most of the playground would remain in shadow all day during part of the fall and winter. This would constitute a significant adverse impact.

Mitigation would require more stringent height restrictions along the south side of New Street and on the east side of part of Beach 34th Street (specifically, the southernmost 135 feet of the street). To avoid shadows that would cover more than about a quarter of the playground at any time, the maximum building height would need to be limited to approximately 24 feet along the street frontages, with building heights further from the street frontages governed by a sky exposure plane rising one foot for every four feet of horizontal setback. (This is because, at 9 AM and 3 PM on December 21, the length of a shadow is approximately four times the height of the structure casting the shadow.) This would result, for example, in maximum building heights of about 50 feet at a distance of 100 feet from the street line and of about 75 feet at 200 feet from the street line.

HPD would include language in the RFP to be issued for development of the Eastern Portion that would notify respondents of the potential shadow impact and encourage a site plan that would minimize the impact. It is the opinion of HPD, however, that R6 districts are appropriate for medium density housing. Typical R6 development, usually between three and twelve stories, is common in built-up areas of all boroughs except Staten Island. To limit development in this area to a height of 24 feet would seriously compromise the value of the parcels and would seriously restrict possible building types. A 24-foot height limit would prevent development of anything except a one- or two-family, two-story flat-roofed home. Therefore, land that could support medium density development would remain severely undeveloped. For this reason, the significant adverse impact would not be mitigated.

Natural Resources

Overview

The proposed project would alter the existing ecology of the Project Site. Development would reduce the habitat area for area wildlife. Approximately 116 acres of vegetated areas would be cleared. The proposed project would also introduce approximately 13,000 residents, with the associated potential human-induced disturbance of wildlife populations and habitats.

Development would not occur, however, on the most sensitive vegetated areas and most valuable habitats within the Project Site. Approximately 24 acres of beachfront dune areas would be preserved, and a 35-acre nature preserve would be created, which would contain new wetlands. These areas, now partially disturbed, would be restored to a more natural state, would be afforded more protection than at present, and would be maintained as parks. These project design features would serve to mitigate the potentially significant impacts to terrestrial ecology and wildlife.

Construction of the proposed project results in the potential for significant amounts of erosion and sedimentation in the receiving basins (Vernam, Barbadoes, Summerville, Conch and Norton) of Jamaica Bay. Operation of the project will result in the potential for significant adverse impacts to the water quality of Vernam, Conch, Norton and Barbadoes Basins, due to projected amounts of nitrogen

in the storm water discharge from the project site. The potential impacts to terrestrial ecology, wildlife and aquatic resources as well as proposed mitigative measures, are discussed below.

Impacts to Terrestrial Ecology

Direct Impacts on Ecological Communities

The construction of the Project will require the clearing and grading of an estimated 116.16 acres of vegetated habitat for the development of the Western and Eastern Portions of the Site. The overall site disturbance will include the clearing and grading for the construction of driveways, drainage features, the creation of temporary staging areas, construction of access roads, commercial facilities, community facilities, and the development of up to 3,900 new residences with landscaping. The proposed roads, commercial and community buildings and residences are all planned to be constructed at an elevation one foot above the 100 year floodplain as a requirement to provide for the safety of the residents and tenants. This requires the addition of various depths of fill throughout the Project Site.

Of the existing habitats, the maritime beach and the active dune community are the most sensitive habitats on the Site in terms of hosting the plant most sensitive to human disturbance. Virtually this entire habitat is being preserved with only 0.3% of the active dune community being impacted.

Other habitats are being impacted from 16% to 100%. These areas, which take up the majority of the Site, will be changed from the existing maritime ecological communities to a residential and landscaped land use.

It should be noted that the beach area (81.8 acres) is not part of the Project Site, has not been included in the calculations above, and will not be impacted. It will remain under the management of the New York City Department of Parks and Recreation.

Impacts to Rare, Threatened and Endangered Species

The rare, threatened and endangered plant species found on the Site, seabeach amaranth (Amaranthus pumilus), dune sandspur (Cenchrus tribuloides) and seabeach knotweed (Polygonum gloucum) have been located and mapped. Based on the vegetation survey, these species are all found within the maritime beach community and along the oceanside edge of the active dune community. The vast majority of the maritime beach within the survey area is outside of the Project Site. Based on the analysis of the proposed lot clearing areas, 84% of the area within the Project Site classified as maritime beach and 99.7% of the active dunes area is being preserved and/or restored as part of the Dune Preserve Area. Due to their high value as rare plants, the design would preserve the areas where rare and endangered species are located. These plants are located either outside of the Project Site, on the beach or within the Dune Preserve Area. These areas will not be developed with housing or other

types of buildings, but will remain under the management and care of the New York City Department of Parks and Recreation.

Based on the field survey conducted for this Environmental Impact Statement, no federal or state endangered or threatened or significant plant species were found in areas slated for clearing. Therefore, the proposed project would have no direct significant impact on such species.

Impacts to Wetlands

Construction activities associated with the proposed Arverne development will require that the wetlands present on the site be filled and eliminated. There are three such wetlands; two that appear to have been created by leaking water pipes or a fire hydrant, and a third that appears to be natural.

The wetlands impacted are of poor quality and have been severely degraded due to past site disturbances, dumping and invasive species. Two of the three wetlands appear to be artificially created (man-made) due to leaking water mains. The sizes of these wetlands are very small and the isolated nature of the wetland reduces their function and value.

The three onsite wetlands will be removed or filled as a result of the construction of the proposed development. In addition, existing wetlands appear to be isolated wetlands and therefore would not be subject to state or federal regulation.

Summary of Impacts to Terrestrial Ecology

As noted above, the development of the proposed project would not result in significant adverse impacts to rare, endangered, or threatened vegetative species. It is also noted that this vegetated area, although not populated with rare, endangered or threatened species, provides value to wildlife, the total absence of which would result in a significant impact.

Proposed Design Features to Minimize Impacts to Terrestrial Ecology

Approach

The goal of these proposed design elements of the Project is to first avoid impacts, if practicable, then minimize impacts to the extent feasible, and finally to make up for or replace losses as opportunities present themselves.

Some proposed measures would fall to the developers or owners of the subject properties, while others would fall under the authority or activities of the New York City Department of Parks and Recreation, which manages and administers portions of the Site and adjacent areas. Each of the measures outlined

in this section includes the party or parties that would be responsible for implementing them.

Avoidance

The Project team, developing the design for the Western Portion has made every effort to avoid the most sensitive vegetation resources as well as threatened and endangered species habitats. Sensitive areas that parallel the north side of the boardwalk containing the active dune communities would remain undisturbed by direct impacts or enhanced with selected plantings and would be incorporated into a Dune Preservation Area (8.5 acres). The Eastern Portion of the development will likewise contain a Dune Preservation Area incorporating the same active dune communities (15.5 acres). The result would be a linear preserve extending along the entire length of the southern border of the Project Site. The Dune Preservation Areas will be enhanced by selected plantings of native vegetation. Schematic details of the landscape design for the Dune Preserve Area for the Western Portion of the Site can be found in the Project Description. The developer of the Eastern Portion of the Site would be required to follow the same design criteria for the Dune Preserve as that detailed for the Western Portion. The developers for the Western and Eastern Portions of the Project would be responsible for the construction of the Dune Preserve Areas. The Dune Preserves would be mapped as parkland. The New York City Department of Parks and Recreation would be responsible for maintenance.

The portion of the Project between B44th Street and B56th Place from Rockaway Beach Boulevard to the Boardwalk would be set aside as a public open space park preserve. It would provide approximately 35 acres of valuable vegetation and wildlife habitat, including a wetland. The preserve would also provide the greatest available no-build buffer immediately north and adjacent to the main core of the existing piping plover nesting area (see Wildlife Section).

Existing high quality vegetation and natural habitats in this area would be preserved in their current state, while man-made infrastructure (parking lots, streets, buildings, etc.) and disturbed or poor quality habitats would be restored to naturalistic habitats that would provide improved diversity of species, topography, and structure of vegetated cover types. This would include establishment of dunes, native grassland, shrubland, and wooded areas in parallel zones ranging up to Rockaway Beach Boulevard. In addition, freshwater wetlands would be created to provide permanent sources of fresh open water for wildlife use. This is particularly important because although there are existing natural wetlands on the Site, none provide perennial sources of fresh water for wildlife, which is a vital resource for wildlife survival.

Habitat restoration, creation and development of the small amount of infrastructure in the central parklands area would be completed and paid for by the developer selected for the Eastern Portion of the Site before development of the Eastern Portion of the Site commences. If for any reason, a developer for the Eastern Portion of the Site is not chosen by 2007, and assuming that the western portion is under development by that time, the New York City Department of Housing Preservation and Development will assume financial responsibility and complete the design and construction of the

central parklands area by 2009. Upon completion, the central parklands area would be maintained and administered by the New York City Department of Parks and Recreation. Schematic details of the central parklands plan are presented in Appendix M of this FEIS.

The Dune Preserve Areas (24 acres) and the Central Area Park (35 acres) would protect, enhance, and preserve the highest value habitat found on the Project Site.

Minimization

The Project has minimized impact to significant vegetation on the site through the creation of the Dune Preserve Areas and the Central Area Park. Additionally, the design of a cluster development would minimize the development footprint while allowing the project to remain economically feasible.

List of Mitigative Design Features

Public Open Space

New plantings will be installed in public open space as part of the residential and retail development in the Western and Eastern Portions of the Project Site. Within the development areas, large areas of natural vegetation totaling approximately 15.3 (9.4 acres in western portion and 5.9 acres in the eastern portion) acres, each ranging from 1 to 4 acres in size, are preserved in about four separate areas. This will reduce some of the long-term impacts to vegetation, wildlife use, and habitat systems. Restoring native species to this area will serve to provide both native biodiversity and habitat for native wildlife species. The landscape design would include a plan to plant native species and coastal community species that are presently on the site including the following: American beachgrass (Ammophila breviligulata), Seaside goldenrod (Solidago sempervirens), Northern bayberry (Myrica pensylvanica), Beach plum (Prunus maritime), Pitch pine (Pinus rigida), Broomsedge (Andropogon virginicus), Switchgrass (Panicum virgatum), and little bluestem (Schizachyrium scoparium). In addition, plants would be planted that contain high wildlife value to wildlife species presently using the site such as: peppergrass, camphor weed, common milkweed, and evening primrose.

Trees of a variety of sizes would be selected for planting to provide a multilevel canopy for a structurally diverse habitat. All open space plantings that are not intended for active recreational or other intensive human use would emphasize beachfront and backdune habitat character, rather than urban neighborhood character.

Selected buildings would incorporate green roof(s) including, rooftop butterfly garden(s).

Site plans and details of the proposed landscaping features for the Western Portion of the Site can be

found in the Project Description. The Eastern Portion developer would be required to develop a landscaping plan for public open space consistent with the design criteria of that proposed for the Western Portion of the site. The developers of both portions of the Site would draw exclusively from an approved list of native plant species, which appears below under Wildlife. Any future additions to this list would require the approval of the DPR Natural Resources Group. The developers of the site would be responsible for the cost of construction of the public open space and homeowner associations would be responsible for the cost of maintenance.

Private Open Space

Landscaping in private open spaces on residential lots would include low-maintenance, predominantly native shrub species and dense ground covers to provide ample protective cover for small wildlife species, including birds and small mammals. By incorporating these plantings into the overall landscape plan, small areas of potential habitat would be retained on each lot, and overall, the developed area would provide viable wildlife resources integrated within the development. The landscape plans proposed by the developer of the Western Portion of the Site can be found in the Project Description. The selected developer of the Eastern Portion would be required to incorporate the same landscape character in the Eastern Portion of the site. All plantings within the developments would be selected from a list of species with high habitat value, which appears below under Mitigative Design Features to Benefit Wildlife; any future additions to this list would require the approval of the DPR Natural Resources Group. The costs associated with the initial landscaping will be borne by the developer while maintenance costs will be met by the homeowners associations or other entity responsible for maintenance (i.e., hotel owner or other). Purchase documents and property deeds associated with residential properties in the newly developed communities throughout the Site would include language and covenants informing prospective buyers that the character of the landscape is to be maintained as designed and can be replanted only with vegetation from the approved plant list. The bylaws of the homeowners associations would also include provisions restricting future plantings to the approved list of species.

Central Area Park

The Central Area Park design would use native species as much as possible, to enhance existing vegetation habitat. The park has been selected as an area to be enhanced and preserved for the following reasons:

The area has existing high diversity;
It contains best example of primary and secondary dunes;
It has a low number of invasive species;
It provides a buffer to the largest area of beach with a population of seabeach amaranth;
Its beach face is in good condition;
It provides the opportunity to preserve a large dune system;

The replacement habitat would provide sparsely vegetated, sandy habitats that could be used by checkered white butterfly (See Wildlife Section);
It is adjacent to endangered species habitat (Piping Plover) and will buffer that habitat from human interference.

Existing impermeable surfaces (streets and a paved area in the vicinity of B52nd Street) would be removed and replaced with natural beach sand, in which native vegetation would be planted. Approximately 3.7 acres of existing impervious surface would be removed. In locations where non-native, invasive plant species are dominant, they would be removed and replaced with native species; this would result in approximately 8.9 acres of higher quality native vegetation within the Central Portion of the Site. In particular, non-native, invasive shrub cover at the western end of the park would be removed; and the soils in which they are growing would be replaced with beach sand; the area would be graded into an undulating dune and backdune topography and would be planted to a backdune swale maritime forest community, with dense plantings of native trees, shrubs, and groundcovers. All plantings within the park would be selected from a list of native species, which is presented elsewhere in this chapter. Approximately 0.6 acres of freshwater wetlands would be incorporated into the park design, providing much needed freshwater resources, on which all wildlife species depend.

The Central Area Park preserve would also include infrastructure to allow for public access and human interaction with this enhanced natural environment. Infrastructure would include a trail loop network for hiking through the preserve and a visitor center at which public environmental education programs can be administered by the New York City Department of Parks and Recreation and local schools. The trail**s** would be at grade with an oyster shell or marl surface, and would be routed through each of the representative habitat types found in the preserve. Educational signage would be utilized in the area to identify vegetation types, target species, and habitat types. The visitor center and a small adjacent parking lot would be located at the east end of the preserve to concentrate development at the edge of the habitat area and to take advantage of the available access from the B44th Street train station. Although plans have not been finalized, it is envisioned that the visitor center would include restrooms, offices, work rooms, storage space, and perhaps meeting rooms. A demonstration garden containing important local plant species would be located near the visitor center.

As a mitigative measure to offset impacts on terrestrial ecology, the new Central Area Park would not only preserve a large existing vegetation habitat, but would also improve the quality of the habitat and restore disturbed areas, resulting in a net increase of approximately 3.4 acres of naturally vegetated habitat in this portion of the Site. The quality of wildlife habitat would be improved through the removal of monocultural and dominant stands of non-native, invasive plant species that provide little value to wildlife and through an increase in the diversity of topographic features, plant species, and cover types.

Define Human Access Points and Routes

Human access walkways and paths would be minimized and well defined through preserved, enhanced,

or created habitats on the Site, in order to minimize human disturbance in these areas. Specifically, paths that cross the Beachfront/Dune Preserve Area to provide access to the beach, paths through public open space that is managed for wildlife habitat, and the loop trail system within the central parkland area would be minimized in number and length to the extent practicable, and would confine movement of people with railings, knee walls, or raised walkways to prevent them from disturbing natural habitats. This would serve to protect the natural vegetation including the minimization of impact to sensitive vegetation in the Dune Preserve Area and the beach (sea beach amaranth). This measure would be initially funded by the developer and maintained by the New York City DPR.

Conclusion

The proposed Project will transform the Eastern and Western Portions of the Project Site into residential, community and commercial uses. In areas where the existing vegetation is well developed and relatively free from disturbance, this represents an ecologically significant change. In other areas (of recent disturbance), the impact of construction on the terrestrial environment is not considered significant because most of the impacted plant communities are already disturbed and, in some cases, contain a high number of non-native or ornamental species.

The entire Arverne Project (Western Portion, Central Portion and Eastern Portion) will result in the disturbance of approximately 116.16 acres of vegetation. Most of the impact will result in a change to housing, commercial buildings and landscape plantings.

The proposed Project would provide naturally vegetated perimeter buffer areas and would create significant naturalistic back dune non-development areas in the Central Park Area and Dune Preserves. Protection of the most sensitive vegetation resources as well as threatened and endangered species habitats would be provided and new wetland areas would be created. These areas would be actively managed and maintained by the New York City Department of Parks and Recreation.

The Project would also provide for landscaping of public and private open space with predominantly native shrubs and trees that provide high visual quality and aesthetic appeal and are beneficial to wildlife.

Taken individually, identified potential impacts would not be considered significant, however considered in their entirety, they could have a significant impact on Site terrestrial ecology, without the proposed design features. These impacts have been minimized through the avoidance of the most significant habitat areas and through the enhancement and preservation of those significant habitats. With the mitigative measures described above included as part of the project, the anticipated loss of habitat from development would not have a significant adverse impact on terrestrial ecology.

Impacts on Wildlife

Habitat Loss

Of all the general categories of wildlife impacts, loss of habitat is probably the most important. While the other categories address various forms of disturbance or isolation, habitat loss addresses the loss of resources necessary to sustain life.

The anticipated loss of habitat would result in a decrease over time in the carrying capacity of the Site to sustain wildlife populations, with a resultant decrease in those populations. It is assumed that with the exception of the central parkland area, the Beachfront/Dune Preserve, and the beach area south of the boardwalk, the proposed development portions of the Arverne URA would be effectively cleared of existing vegetative cover and wildlife habitat to facilitate the filling, grading, and construction proposed on the Site. It is important to note that while habitat loss within the developed areas would be total during construction, habitat areas in the preserves and beachfront would remain throughout development, providing a refuge for wildlife during construction, and habitat areas would be reestablished for wildlife within developed areas after construction is complete. Anticipated amounts and types of vegetative cover loss across the Site are outlined in more detail in Table 2.9-5 of this DEIS.

Clearing would be phased across the Site from west to east, such that the entire Site would not be cleared at once, but would be cleared in sections as construction progresses. The area of the proposed Arverne-by-the-Sea development (B62nd Street to B81st Street) would be cleared simultaneously with the Water's Edge II site (B59th Street to B62nd Street). Construction on these sites is proposed to be complete by 2007. The eastern end of the Arverne URA, from B32nd Street to B44th Street, would be cleared later to accommodate a targeted construction date of 2009.

Effects on Common Urban Wildlife Species

Loss of habitat would impact both resident and migratory wildlife on the Project Site. The phased clearing and construction across the Arverne URA would allow resident wildlife displaced from the western end of the Site to relocate to the eastern end of the Site, where they would have to compete for more and more limited resources with wildlife that are already in residence there. This may result in some overcrowding, which would likely result in increased mortality rates among resident wildlife species until a new carrying capacity equilibrium is reached. That equilibrium would again be disrupted when the eastern portion of the Site is cleared for construction, and resident wildlife species are again displaced, this time off of the Site and to adjacent habitat areas including the Dune Preserve Area and the Central Area Park.

Among resident species, mammals would be more impacted than avian species, primarily because existing development in the area poses a significant barrier to dispersal and relocation for ground-bound wildlife. Avian species are more capable of dispersal to surrounding habitat areas since most of the

habitat barriers that isolate mammals (such as busy roads) do not affect birds that can fly over them. However, decreases in small mammal populations may have a secondary effect on predatory avian species through the decrease in prey. Small mammals provide a food source for avian predators, so a decrease in this prey base may impact habitat availability for resident or migratory birds of prey.

Habitat loss would also impact migratory species that only pass through the Site or use it as a migratory stopover point. Loss of habitat on the Site would mean a decrease of potential foraging ground, roosting areas, and food sources for migratory avian or insect species that only use the Site as a stopover point as they pass through on migration. The maintenance of the Beachfront/Dune Preserve and the central parkland area would maintain the primary naturally vegetated migratory pathway. While this may force migratory species to travel further or expend more energy searching for food or roosts, it will not have a significant effect on migratory species, since they already migrate over large areas of urban land to both the east and west of this area, and are adapted to survival in these habitats. Further, the Arverne URA Site represents a very small percentage of their total resources for survival over their entire migratory route. It is unlikely that a decrease of habitat and food resources within this one area would have a significant impact on their overall fitness for migration.

Thus, for common resident and migratory species these impacts would not be significant, as they would be very localized, and would not have a measurable impact on the overall regional resident populations of these species, nor on the migrants that pass through the Site.

Effects on Rare, Threatened, or Endangered Species

Habitat loss would have relatively minor impacts to resident and migratory rare, threatened, or endangered (RT&E) species found on the Site. From the standpoint of migratory RT&E species, they would encounter the same constriction of naturally vegetated habitat for migratory stopovers and foraging that more common species would encounter. They, too, have been migrating over urban areas to the east and west for many years and are adapted to it. While foraging and roosting resources would be decreased, they would not be eliminated altogether. Since most migrating animals typically search for new roost and foraging sites on a continuous basis, it is assumed that migrating birds and insects would adapt to the alteration in habitats and would not be significantly impacted. Actual anticipated impacts to each of the listed RT&E species found on the Site are outlined below by species.

Common Loon – The common loon uses offshore habitats for winter foraging, and is not known to use terrestrial habitats on the Site. Therefore, this species will not be impacted at all by loss of terrestrial habitat on the Site.

Osprey – Osprey migrate over the Site, and travel over the Site between the ocean and Jamaica Bay during the breeding season as they move from one foraging area to another. The osprey's diet consists primarily of fish, and it is not known to nest on or near the Site, so it will not be impacted by loss of terrestrial habitat.

Northern Harrier – Northern harriers migrate through and forage on the Site during migration, and may use the Site for foraging during the breeding season if any individuals reside nearby (none were observed during the breeding season, and are presumed to be non-resident on the Site). These birds of prey commonly forage for small mammals low over the ground in open, grassy habitats, including meadows and marshes. While the loss of habitat in the development portions of the Arverne URA would result in a decrease in available foraging area for this species, foraging area would remain in the Beachfront/Dune Preserve and the central parkland area. The anticipated decrease in small mammal populations may impact this species by decreasing their available prey base on the Site. Individuals of this species would not entirely lose their prey base or foraging area, but would be forced to expend additional energy to hunt in a wider geographic area to obtain the prey base on which they currently survive. This habitat loss would not significantly impact Northern Harrier populations, however, because marshy open lands along the south shoreline of Jamaica Bay, including DuBos Point Wetlands Sanctuary, Bayswater Point State Park, Edgemere Park, and the peninsula between Barbadoes and Vernam Basins, as well as the marshy out-islands in Jamaica Bay and Silver Point County Park on the ocean side of the Site would continue to provide ample suitable foraging and roosting habitat for this species.

Short-Eared Owl – Short-Eared owls and Northern Harriers share many similarities in their habitat needs and usage patterns. Thus, impacts to Short-Eared Owls would be similar to those of the Northern Harrier outlined above, and would not have a significant adverse impact on regional populations of this species.

Sharp-Shinned Hawk – Sharp-Shinned Hawks forage on insects and small birds and mammals throughout the year and on migration through the Site. Loss of habitat in the development area would constrict their migratory pathway somewhat, but they would likely adapt well to the development in other respects. Sharp-shinned Hawks are commonly observed in developed areas, and they often benefit from the human placement of bird feeders that concentrate their prey into predictable locations for foraging. Further, they are more apt to roost near human development than many other birds of prey, and would likely make use of street trees or residential landscaping for roosting during migratory stopovers. Thus, the impacts of habitat loss to this species will be insignificant.

Coopers Hawk – Coopers Hawks also hunt small birds and mammals all year and during migration throughout the Site. They are generally observed less frequently around human development, and so it may be assumed that they adapt less readily to development than Sharp-shinned Hawks. Therefore, impacts to this species resulting from the decrease in natural habitats on the Arverne URA would include a constriction of their migratory pathway and reduction in migratory stopover resources such as food and roost areas. However, surrounding foraging habitat in remaining natural cover types in the area would continue to provide a prey base and protective roost cover for migrating or potentially resident individuals. As such, impacts to this species from habitat loss will not be significant.

Red Shouldered Hawk – This species is not common or resident in the Arverne URA, and is known only as a through migrant that may stop at the Site to roost or forage. The reduction of naturally vegetated areas and potential associated decrease in prey base would render the Site less attractive to this species as a migratory stopover point. However, the small mammals that this hawk seeks for food, and the trees it seeks for cover would still be found within the Beachfront/Dune Preserve and the central parkland area, as well as in locations east and west of the Site such as Riis Park. While a certain reduction in available foraging and roosting area would be apparent, it will not have a significant adverse affect on this species, since some on site resources, and other surrounding resources would remain.

Peregrine Falcon – Peregrine Falcons primarily prey upon medium size birds ranging from pigeons to waterfowl, though they will also take smaller birds. They adapt well to the urban environment, which often effectively mimics their preferred natural cliff nesting habitats. Food supplies, primarily consisting of pigeons, also tend to thrive in urban environments. Therefore, loss of natural habitat on the Arverne URA is not likely to have a significant adverse impact on this species. It will continue to find prey, roosting sites, and possibly nesting sites on the Arverne URA in its post-development condition.

Horned Lark – Horned larks are uncommon breeders along the barrier islands of Long Island, but are more commonly found wintering near beachfront habitats in large flocks often mixed with Snow Buntings and Lapland Longspurs. They are one of the few wildlife species that benefit from increases in mowed lawn area, as it tends to mimic tundra and short-grass grasslands that are a preferred habitat of this species. Thus, the development of the Arverne URA may make the area more attractive to this species as developed areas with grass lawns or planted as natural covers would provide habitat for nesting and foraging. While natural cover would be decreased on the Site, much of the existing natural cover is not preferable habitat for Horned Larks, so the site development, with its increase in managed lawn and planting of beach grasslands may actually benefit these birds.

Piping Plover – Piping Plovers primarily use the bare beachfront habitat to the south of the existing boardwalk for nesting, and do not generally use the heavily vegetated habitats north of the boardwalk. Loss of naturally vegetated habitat north of the boardwalk would therefore have no direct significant impact on Piping Plovers. Construction of the Project would not disturb the beach area south of the boardwalk and the management of the Piping Plovers by the New York City DPR would continue in the future with the Project.

Least Tern – Least Terns, like Piping Plovers, are generally associated with the open sand beachfront and waterfront on the ocean. They use these areas for nesting and feeding. They do not rely upon habitats north of the boardwalk, so loss of vegetated habitats north of the boardwalk would not directly impact these birds in a negative way.

Common Tern – To date, Common Terns have primarily been observed foraging offshore in the ocean, but have not established annual nesting colonies on the beach at Arverne. Their habitat needs are

similar to those of the Least Tern and Piping Plover, so loss of habitat north of the boardwalk would not have a significant adverse impact on them.

Roseate Tern – Roseate Terns have only been observed foraging offshore adjacent to the Site, and have not established nests on the beach. Like the other colonial water birds found in this area, they do not use the upland habitats found north of the boardwalk, and therefore would not be impacted by the loss of habitat there.

Black Skimmer – Black Skimmers have been found to nest on other beaches in the region, but have yet to establish annual nesting colonies at Arverne. Their primary use of the area is as a foraging area offshore. Loss of habitat within the Arverne URA would not impact the Black Skimmers' use of the offshore foraging area.

Checkered White Butterfly– Of all of the RT&E species found on the Project Site, the Checkered White is most likely to be impacted by loss of habitat within the Arverne URA because food sources for this species, such as Peppergrass and Camphorweed, have been found within the proposed development area. Loss of the existing natural vegetation within the proposed development area would result in the loss of much of this food source, which would have a significant adverse impact on Checkered White use of the Site, if the loss went unmitigated.

As a mitigation measure for this potential impact, the proposed habitat preservation in the central parkland area and Beachfront/Dune Preserve would provide protection of some potential feeding areas for this species. More feeding area would be provided through native plantings proposed throughout the developed areas of the Site to provide food plants for this and other migratory butterflies in order to mitigate for the potential adverse impacts of the proposed development. This would provide food sources for the Checkered White distributed throughout the Site.

In addition, as a mitigation measure, plantings for the developed and park areas will be chosen from a list of species with high habitat value discussed later in this Section. This list includes species that would provide food and habitat for the Checkered White, and thus, there would be a more even distribution of food sources than currently exists. This would apply to both the Western and Eastern Portions of the development. The combination of native plantings within the developed area, and the preservation of existing foraging habitat in the Beachfront/Dune and central parkland area would prevent a significant loss of habitat and food plants from impacting this state-listed special concern species. Distribution of food sources throughout the Site would make it easier for butterflies to locate food. Existing food sources are concentrated and localized in specific areas of the site. Well-distributed food sources would be less susceptible than existing resources to losses from localized disturbances, such as fires, or development of individual parcels that previously held a concentrated food source. Thus, with the mitigation proposed, the Checkered White will not be significantly impacted by the proposed development.

Based on the proposed development plan and design measures incorporated, the anticipated impacts resulting from loss of habitat from development of the Arverne URA would therefore not have a significant adverse impact on any of the RT&E species observed on the Site.

Habitat Fragmentation

Habitat fragmentation is the separation of habitat areas into isolated pockets or "islands" by physical barriers that prevent wildlife species from moving from one island to another. This results in the establishment of isolated sub-populations of wildlife species that cannot interbreed with other conspecific populations, thereby running the risk of becoming genetically isolated and highly susceptible to catastrophic mortality from disease outbreaks. Wildlife populations on the Arverne URA, especially ground-based mammals, are already largely isolated from surrounding populations in other natural areas by surrounding urban development. Busy urban streets prevent exchange among wildlife populations in existing natural areas. Birds, insects, and flying mammals (bats) are not as susceptible to this isolation because of their increased mobility stemming from their ability to fly.

As development increases on the Arverne URA, the entire habitat island of the Arverne URA would, itself, become fragmented as increased traffic and human activity present impenetrable barriers to wildlife movement within the Arverne URA. Habitat connectivity across the Site would be diminished.

Mitigative design measures to avoid further habitat fragmentation on the Arverne URA includes maintenance of a preserved habitat corridor in the Beachfront/Dune Preserve, and establishment of habitat connectivity corridors along streetscapes and public open spaces within the development. These measures, described in more detail in the Terrestial Ecology section of this DEIS, would minimize the potential impacts of habitat fragmentation within the Arverne URA so that habitat fragmentation would not pose a significant adverse impact to wildlife.

Increased Human Population Effects

The post-development human population on the Project Site is projected to increase by up to 13,000 individuals over existing conditions. This would include an increase of approximately 8,000 individuals in the Western Portion of the Site, and an additional 5,000 people in the development proposed for the eastern Portion. Increasing human populations would have a number of direct and indirect impacts to wildlife.

<u>Primary Impacts of Increased Human Population on Wildlife</u>

The primary impacts of increased human population on wildlife, result from increased human use of the beachfront and public open spaces, human displacement of wildlife from developed areas, effects of vehicle use, and effects of wildlife feeding by humans. The impacts of these actions are outlined below.

Limiting Beachfront Nesting Expansion and Foraging

As the resident human population increases in Arverne, and as more visitors are drawn to the area by retail development and revived use of the beach during summer months, more and more humans would access the beachfront, potentially disturbing and displacing wildlife there. While more common shorebirds might be disturbed in their foraging along the shoreline, the primary concern on the beachfront is the protection of nesting and foraging Piping Plovers and Least Terns, which are state and federally-listed species. The New York City DPR has maintained "symbolic fencing", as defined in the Piping Plover Atlantic Coast Population Recovery Plan (ACPPRT, 1996), at least 50 meters from nests located on the Arverne beachfront. In addition DPR's Urban Park Rangers have maintained, and plan to continue through the foreseeable future, monitoring of the colony from April through August to prevent the disturbance of nesting plovers, oystercatchers, terns, and associated species.

Displacement from Public Open Spaces within the Developed Area

While public open space within the developed area might support and provide viable wildlife habitat, there is the potential for excessive human activity to displace wildlife from these areas if sufficient protective cover is not provided and if human movement patterns are not predictable. Many wildlife species would adapt to human proximity if human movement patterns were predictable, and were separated from wildlife cover. Thus, as a mitigation measure, the site layout of the proposed Project would take this into consideration to minimize proximal human interaction with wildlife so that wildlife can take advantage of created habitat within public open spaces in the development areas. This would help prevent significant adverse impacts to wildlife use of habitat areas within the Arverne URA.

Vehicle-Induced Mortality

Increased human populations in the Arverne URA would result in increased vehicular traffic on the network of existing and proposed roads throughout the proposed development area. Increased vehicle traffic would result in the increased probability of vehicle-induced mortality of wildlife (road kill). Consideration was given to the use of traffic calming measures on roads adjacent to wildlife habitats such as the Beachfront/Dune Preserve and central parkland area, but subsequent to the submittal of the draft Environmental Impact Statement it became apparent, through discussions with the New York City Department of Transportation, that such measures would not be practicable. Since it is not possible to institute measures that would slow traffic in these critical areas, an increase in vehicle-induced mortality may occur.

Disease Spread and Focused Predation

When humans settle into areas where wildlife are present, many people place bird feeders, birdbaths, and other wildlife feeding devices near their homes to be able to observe wildlife at close range. While wildlife feeding can provide important habitat needs to wildlife, it can also have adverse impacts. These

include providing poor quality foods, and artificially concentrating wildlife species at feeding stations. This results in providing locations at which sick wildlife can spread disease, and at which predators can find a concentrated and predictable source of prey. The developments within the Arverne URA have been or will be (Eastern Portion) designed to provide suitable habitat needs for wildlife. Wildlife feeding should therefore be avoided, based on the potential wildlife health risks associated with it. An educational brochure that discusses the problems associated with wildlife feeding is being prepared by the developers and will be included in sales and closing documents provided to homeowners. By preventing wildlife feeding, these adverse impacts would be avoided.

Secondary Impacts of Increased Human Population on Wildlife

Indirect, or secondary impacts of increased human population are effects caused by secondary characteristics that occur as a result of human presence, but that are not necessarily direct human actions. Examples of indirect or secondary impacts of human population increase include increases in human-dependent scavenger or nuisance wildlife species and increased predation or disturbance by free-ranging or feral pets. Secondary impacts of increased human populations on wildlife are outlined in more detail below.

Increases in Scavenger or Nuisance Wildlife Species

As human development and land use increases, so do populations of scavenging wildlife that often come to depend on human habitation for their living. These species include rats, raccoons, mice, gulls, crows, starlings, jays, and pigeons, to name a few. Many of these species are attracted by and feed on garbage left out by humans, and others use human dwellings as nesting or roosting sites.

The increase in populations of these species has a secondary impact in that they begin to displace, parasitize, or prey upon local native wildlife. This impact would be prevented by providing enclosed garbage disposal areas, and requiring their use under homeowners' association regulations or similar community rules. The developers are preparing an educational brochure that will include a section that discusses the problems associated with wildlife feeding and will include it in sales and closing materials. These measures would help to minimize this impact.

Increase in Predation and Disturbance by Free-Ranging and Feral Pets

It is well documented that free-ranging dogs and cats can have a devastating effect on local wildlife populations as a result of direct predation as well as through disturbance or displacement. Feral and free-ranging dogs and cats have already been recognized on the Arverne URA as a significant cause of mortality and disturbance within the fenced piping plover nesting areas on the adjacent beach. Feral dogs have also been recognized as a threat to human safety on the Site. With the increase in human

population projected for the Arverne URA, there would certainly be an associated increase in the number of pet cats and dogs in the community and any increase in the number of unmanaged dogs and cats would result in a potentially significant adverse impact on wildlife resources. These pets must be prevented from free-ranging in order to protect local wildlife and humans. The Piping Plover Atlantic Coast Population Recovery Plan (ACPPRT, 1996) requires that if dogs are permitted on a beach where piping plovers are known to nest, they must be confined to a leash during the nesting season (April 1 to August 31). If dog owners do not comply with this requirement, then the Recovery Plan requires that dogs must be restricted from the beach entirely. Such restrictions are difficult to enforce, but enforcement can be facilitated if regulations and requirements calling for punitive fines from pet owners, or impoundment and potential destruction of captured free-ranging pets are publicly posted As a mitigation measure for this potentially significant impact, it will be a requirement that such signs are posted and maintained by the homeowners association. Impacts associated with free ranging pets will be discussed in the educational brochure prepared by the developers, previously mentioned in this Section. Purchase agreement documents and deed covenants would include language that places restrictions on free-ranging domestic pets. Enforcement would be the responsibility of the New York City DPR. If properly enforced, such controls on free-ranging pets would avoid significant impacts to wildlife.

Building and Infrastructure Effects

The addition of buildings and other man-made infrastructure to the Project Site where there is now mostly vegetative cover also has the potential to impact local wildlife. Migratory birds and insects can be impacted in several ways by the presence of buildings and addition of street lighting and building lights. All of these impacts can be addressed through careful selection of construction and Site fixture materials. Details of these mitigative actions are outlined in the Mitigation section of this DEIS.

Bird Strikes

The Arverne URA falls within an important migratory pathway for birds and insects that runs along the barrier islands and peninsulas that line the south shore of Long Island. During migration periods, tens of thousands of birds may pass through the Site in a single day, often traveling at high speeds. Buildings with a high percentage of reflective surface (such as glass windows) often reflect the sky, rendering the building virtually invisible to birds. The result is bird-window strikes that generally result in avian mortality.

Bird strike mortality is not limited to high-rise or mid-rise buildings, but can also occur in single-story structures, since many songbirds can migrate close to the ground. In the fall of 2001, a migratory wave of Tree Swallows was observed passing through the Arverne URA, and most were flying at or below the level of the boardwalk. Thus, the buildings proposed in the Arverne URA have the potential to adversely impact migrating birds by posing window-strike hazards within a heavily traveled migratory pathway.

Placement of single objects such as falcon silhouettes or owl decoys on or near windows is not considered an effective method of reducing bird strikes. The risk of window strikes will be significantly reduced through a variety of structural solutions (Klem, 1990). As a mitigation measure, these would include minimizing reflective surfaces on buildings or placing a non-reflective grid or pattern over windows with a uniform spacing not exceeding 10 centimeters apart to break up reflections (external window screens may serve this function). Use of one or more of these methods will avoid having window strikes become a significant adverse impact to birds.

Disorientation from Light Pollution

Excess light directed or reflected up from the ground or buildings at night poses a navigational hazard to night-migrating birds. Birds are known to use light cues for navigation, and excess light, or light "pollution", can confuse or misdirect birds that migrate by night, particularly in overcast or foggy conditions. The existing "cobra head" style light fixtures along streets throughout Arverne are notorious for causing light pollution. As a mitigation measure, street light fixtures that direct light down to street level with minimal incident light directed up toward the sky, would be selected for the Project. Low-level bollard-style light fixtures that direct light downward would provide lighting along walkways that do not require overhead lighting. Thus, appropriate selection of lighting fixtures will avoid or minimize the impacts of light pollution on bird navigation. The developer would incorporate these lighting fixtures in the design unless restricted by City or State Agencies.

Construction Disturbances

Noise, vibrations, earth moving, and human activity associated with construction has the potential to disturb and displace wildlife species not only from the immediate areas in which the activities are taking place, but also in adjacent areas. Therefore, precautions must be taken to avoid construction activities in or adjacent to sensitive habitats or areas in which wildlife could be nesting. As a mitigation measure, precautions will include such things as seasonal phasing of construction to avoid disturbances of sensitive areas during the nesting season, but allowing activities during seasons when wildlife are either not present or are less subject to disturbance and displacement. This would avoid impacting wildlife during sensitive seasons. For purposes of this discussion, the locations where such construction should be avoided during the period from late March to late August are the dune preservation areas and the central park/preservation area. This restriction would not apply to the building sites of the proposed project.

Mitigative Design Features to Benefit Wildlife

The goal of these proposed design elements of the Project is to first avoid impacts to wildlife, if practicable, then minimize impacts to the extent feasible, and finally to make up for or replace losses as opportunities present themselves. Just as impacts to wildlife were summarized under four general categories (loss of habitat, habitat fragmentation, increased human population effects, and

building/development effects), specific design elements of the project are outlined below to address those anticipated impacts. In addition, some measures would fall to the developers or owners of the subject properties, while others would fall under the authority or activities of the New York City DPR, which manages and administers portions of the Site and adjacent areas. A summary of these mitigative measures is as follows:

Preserve and Enhance Existing Habitat

This would include the following features:

Open Beach/Shorefront, including the directing of individuals away from the piping plover colony.

Beachfront/Dune Preserve, which would include the preservation of the dune area north of the boardwalk.

Central Parkland Area. The portion of the Project Site between B44th Street and B56th Place from Rockaway Beach Boulevard to the Boardwalk would be set aside as a public open space park preserve. It would provide ±35 acres of valuable wildlife habitat and provide opportunities for people to interface with natural habitats and learn about the natural environment of the Rockaway Peninsula. The preserve would also expand upon the Beachfront/Dune Preserve in providing migratory stopover habitat. The location for this park was selected because it would also provide the greatest available no-build buffer immediately north and adjacent to the main core of the existing piping plover nesting area.

Existing high quality natural habitats in this area would be preserved in their current state, while man-made infrastructure (parking lots, streets, buildings, etc.) and disturbed or poor quality habitats would be restored to naturalistic habitats that would provide improved diversity of species, topography, and structure of vegetated cover types. This would include establishment of dunes, native grassland, shrubland, and wooded areas in parallel zones ranging up to Rockaway Beach Boulevard. In addition, freshwater wetlands would be created to provide permanent sources of fresh open water for wildlife use. This is particularly important because although there are existing natural wetlands on the Site, none provide perennial sources of fresh water for wildlife, which is a vital resource for wildlife survival.

The park preserve would also include infrastructure to allow for public access and human interaction with this enhanced natural environment. Infrastructure would include a trail loop network for hiking through the preserve and a visitor center at which public environmental education programs can be administered by the New York City DPR and local schools. The trails would at grade with an oyster shell or marl surface, and would be routed through each of the representative habitat types found in the preserve. Educational signage would be utilized in the area to identify vegetation types, target species, and habitat types. The visitor center and small adjacent parking lot would be located at the east end of the preserve to concentrate development at the edge of the habitat area and to take advantage of the available access from the B44th Street train station.

As a mitigative measure to benefit wildlife, the park would provide a buffer 400 to 750 feet wide between the core of the piping plover nesting area and the area where development would occur. By increasing both the quantity and the quality of the vegetative habitat in this part of the Site, the creation of the park would also increase the amount and quality of natural wildlife habitat, creating an increased carrying capacity and thereby allowing some wildlife displaced from other portions of the Site to move to the park. It would also preserve a stopover habitat for migratory and transient species, including rare, threatened, and endangered species, such as peregrine falcons and northern harriers. The quality of wildlife habitat would be improved by the removal of monocultural and dominant stands of non-native, invasive species, which provide little value to wildlife. Because its design would include increased diversity of cover types, the park would provide increased ecotone (edge) habitat, which is considered better than single habitat types in its ability to support a diversity of wildlife species. Wetland areas and sources of freshwater would increase fourfold, providing one of the most important resources for the support of wildlife.

Create New Habitat and Wildlife Corridors

In addition to preserving, restoring, and enhancing existing habitats on the Site to preserve wildlife habitat, the development plans for the Project also call for habitat creation within public open spaces in developed areas. This would allow many of the common urban-adapted wildlife species currently found on the Site to use more of the Site once the development is complete. It would also provide vegetated travel corridors for wildlife so that they may pass through the Site between larger habitat areas, thereby maintaining connectivity among habitat areas, and minimizing habitat fragmentation. While creation of wildlife habitat is somewhat limited by the need for development infrastructure and active, human-use recreational areas, urban-adapted wildlife species are well adapted to using narrow vegetated travel corridors such as hedgerows and lines of street trees, as well as small pockets of habitat such as gardens and "vest pocket" or terminal parks. For example, Screech Owls (Otus asio) in New York City's Central Park are known to travel along streets radiating out from the park to forage at night, using street trees as natural travel corridors (Brash, 2002). Small mammals in Washington, D.C. frequently use planting strips along sidewalks as travel corridors, cover, and foraging areas (pers. obs.).

Created habitats within public open spaces in developed areas of the Western and Eastern Portions would provide viable microhabitats for butterflies and other insects as well as birds. Street trees would be selected from native species and will be planted within linear planting strips that line sidewalks. The planting strips would be planted with low-maintenance perennial flowering plants that will provide cover for small wildlife, seeds for birds, and nectaring areas for butterflies. Likewise, divided street median strips, terminal parks at the ends of sidewalks, and walkways between groups of houses would be planted with low-maintenance, naturalistic plant communities with a focus on native and wildlife food-bearing plants. Species to be planted on the Site would be selected from an approved list of native species, as discussed below.

Native Plant Species for Habitat Creation and Enhancement

All plantings on the Site, both initially and in the future, would consist of species selected from lists approved by the DPR Natural Resources Group. The current lists of approved species appear below. Any future amendment of the lists would require the approval of the DPR Natural Resources Group. This restriction would apply to public parks, street plantings, common areas within the developments, and all individual development parcels, including all front, rear, and side yards.

Separate lists would be maintained (1) for the public open space under DPR jurisdiction and (2) for the privately owned portions of the Site and the streets within the Site. The former list is more restrictive and includes only native species; the latter list consists mainly of native species. Both lists appear below.

Plant Species List for Parks Department Properties on the Site

MAJOR TREES (DECIDUOUS and EVERGREEN)

Pin Oak	Quercus palustris
Scarlet Oak	Quercus coccinea
Red Oak	Quercus rubra
White Oak	Quercus alba
Black Cherry	Prunus serotina
Pitch Pine	Pinus rigida
Hackberry	Celtis occidentalis
Catalpa	Catalpa speciosa
American Sycamore	Platanus occidentalis
Cottonwood	Populus deltoides

MINOR TREES

Shadblow	Amelanchier laevis or canadensis
Sassafras	Sassafras albidum
Beach Plum	Prunus maritima
Cockspur Hawthorne	Crataegus crusgalli
American Holly	Ilex opaca
Scrub Oak	Quercus ilicifolia
Red Cedar	Juniperus virginiana
Musclewood	Carpinus caroliniana

SHRUBS

Arrowwood Viburnum	Viburnum dentatum
Sweet Fern	Comptonia peregrina
Potentilla	Potentilla fruiticosa
Inkberry	Ilex glabra
Bayberry	Myrica pensylvanica
Shinning Sumac	Rhus copallina
Smooth Sumac	Rhus glabra
Raspberry/Blackberry	Rubus spp.
Witchhazel	Hamamelis virginiana

GROUNDCOVERS AND VINES

Bearberry	Arctostaphylos uva-ursi
Beach Heather	Hudsonia tomentosa
Virginia Rose	Rosa virginiana
Virginia Creeper	Parthenocissus quinquefolia

HERBACEOUS AND GRASS SPECIES

Easter Prickly Pear	Opuntia opuntia
Common Milkweed	Asclepias syriaca
Indian Hemp	Apocynum cannabinum
Seabeach Orach	Atriplex arenaria
Evening Primrose	Oenothera biennis
Pepper Grass	Lepidium campestre
Camphorweed	Heterotheca subaxillaris
Seaside Goldenrod	Solidago sempervirens
Beach Grass	Ammophila breviligulata
Deer Tongue Grass	Panicum clandestinum
Barnyard Grass	Echinochloa crusgalli
Fescue Grasses	Festuca spp.
Little Bluestem Grass	Andropogon scoparius
Broom Sedge Grass	Andropogon virginicus
Switch Grass	Panicum virgatum
Wild Rye Grass	Elymus virginicus

Plant Species List for the Remainder of the Site

MAJOR TREES (DECIDUOUS AND EVERGREEN)

Pin Oak	Quercus palustris
Scarlet Oak	Quercus coccinea
Red Oak	Quercus rubra
White Oak	Quercus alba
Swamp White Oak	Quercus bicolor
Pin Oak	Quercus palustris
Chestnut Oak	Quercus prinus
Willow Oak	Quercus phellos
Black Oak	Quercus velutina
Black Cherry	Prunus serotina
Pitch Pine	Pinus rigida
Hackberry	Celtis occidentalis
Silver Maple	Acer saccharinum
Sugar Maple	Acer saccharum
Sweetgum	Liquidamber styraciflua
London Plane Tree	Platanus x acerifolia
White Ash	Fraxinus americana
Green Ash	Fraxinus pennsylvanica
Honey Locust	Gladitsia triacanthos var. inermis
Black Tupelo	Nyssa sylvatica
American Elm	Ulmus Americana
Catalpa	Catalpa speciosa
American Sycamore	Platanus occidentalis
Cottonwood	Populus deltoides

MINOR TREES

Shadblow	Amelanchier laevis or canadensis
Sassafras	Sassafras albidum
Beach Plum	Prunus maritime
Pin Cherry	Prunus pennsylvanica
Cockspur Hawthorne	Crataegus crusgalli
American Holly	Ilex opaca
Scrub Oak	Quercus ilicifolia
Red Cedar	Juniperus virginiana
Musclewood	Carpinus caroliniana
Yellowwood	Gladrastis lutea

Flowering Dogwood	Cornus florida
Mountain Silverbell	Halesia monticola

SHRUBS

Arrowwood Viburnum	Viburnum dentatum
Sweet Fern	Comptonia peregrina
Potentilla	Potentilla fruiticosa
Inkberry	Ilex glabra
Bayberry	Myrica pensylvanica
Shinning Sumac	Rhus copallina
Smooth Sumac	Rhus glabra
Raspberry/Blackberry	Rubus spp.
Heather	Calluna vulgaris
Heath	Erica carnea
Witchhazel	Hamamelis virginiana
Shore juniper	Juniperus conferta
Border privet	Liqustrum obtusifolium
Rugosa Rose	Rosa rugosa
Lowbush Blueberry	Vaccinium angustifolium

GROUNDCOVERS AND VINES

Bearberry	Arctostaphylos uva-ursi
Beach Heather	Hudsonia tomentosa
Virginia Rose	Rosa virginiana
Virginia Creeper	Parthenocissus quinquefolia
Clematis virginiana	Clematis
Trumpet honeysuckle	Lonicera sempervirens
Wisteria	Wisteria sinensis

HERBACEOUS AND GRASS SPECIES

Easter Prickly Pear	Opuntia opuntia
Common Milkweed	Asclepias syriaca
Butterfly weed	Asclepias tuberosa
Indian Hemp	Apocynum cannabinum

Seabeach Orach	Atriplex arenaria
Evening Primrose	Oenothera biennis
Small sundrops	Oenothera perennis
Pepper Grass	Lepidium campestre
Virginia Pepper Grass	Lepidium virginicum
Camphorweed	Heterotheca subaxillaris
Seaside Goldenrod	Solidago sempervirens
Beach Grass	Ammophila breviligulata
Deer Tongue Grass	Panicum clandestinum
Barnyard Grass	Echinochloa crusgalli
Fescue Grasses	Festuca spp.
Little Bluestem Grass	Andropogon scoparius
Broom Sedge Grass	Andropogon virginicus
Switch Grass	Panicum virgatum
Red Switch Grass	Panicum virgatum 'Hanse Hermes'
Wild Rye Grass	Elymus virginicus
Dusty Miller	Artemisia stellariana
New York Aster	Aster novi-belgii
Carex	Carex spp
Rough Fleabane	Erigeron strigosus
Heuchera	Heuchera Americana
Japanese Blood Grass	Imperata cylindrical 'red baron'

LAWN GRASS

Tall Fescue
Perennial Ryegrass
Kentucky Bluegrass
Hard Fescue
Chewing Fescue
Creeping Red

Private Open Space

Street trees would be planted in open planting strips or in front yards of houses, but use of tree grates would be avoided to prevent girdling of trees. Trees of a variety of sizes would be selected for planting to provide a multilevel canopy for a structurally diverse habitat. All open space plantings that are not intended for active recreational or other intensive human use would emphasize beachfront and backdune habitat character, rather than urban neighborhood character.

Selected buildings would incorporate green roof(s) including, rooftop butterfly garden(s). In the

Western Portion, this would include the new parking garages at the north central part of this portion.

Site plans and details of the proposed landscaping features for the Western Portion of the Site can be found in the Project Description. The Eastern Portion developer would be required to maintain a minimum of the same proportion of public open space as that proposed for the Western Portion of the site. The developers of the site would be responsible for the cost of construction of the public open space and homeowner associations would be responsible for the cost of maintenance.

Minimize Human Disturbance of Wildlife

One of the primary potential impacts to wildlife of the proposed Project is human disturbance from the estimated increase in human population of ±13,000 individuals. In addition to the growth in residential population, there would be an increase in visiting human use that would be attracted by the new retail development and active public beach availability. The following design measures are intended to avoid or minimize the impacts to wildlife of the projected increase in human use of the Site and the adjacent beachfront.

Limit Pedestrian Access to the Beach

Due to the nesting of state and federally-listed threatened and endangered birds (Piping Plover and Least Tern) on the beachfront to the south of the Project Site, the beach is probably the area most sensitive to increased human disturbance impacts. Piping Plovers are not very tolerant of human disturbance, and would displace from nests or feeding activity in reaction to pedestrian and vehicular activity (ACCPRT, 1996). Thus, to prevent or minimize impacts to nesting Piping Plovers and Least Terns, public access to and use of the beach must be limited. Limitations on beach access would be applied in several ways, by both the developers of the Project and the New York City DPR's Urban Park Service. Limitations would have to be flexible in their proposed locations, as the existing Piping Plover colony changes in geographic size from year to year. Proposed approaches to access limitations are outlined below.

Purchase documents and property deeds associated with residential properties in the newly developed communities throughout the Site would include language and covenants informing prospective buyers that portions of the beach would be subject to closure during the Piping Plover breeding season (April 1 through August 31). Buyers would be required to acknowledge that they have been informed of these potential closures and must agree to comply with them as a condition of purchase. This mitigation measure would be provided by the developer in the sale or lease agreements..

The New York City DPR's Urban Park Service has historically assumed the monitoring and maintenance of the Piping Plover colony each summer at Arverne in compliance with the Piping Plover Atlantic Coast Population Revised Recovery Plan (ACCPRT, 1996). Their activities have included placement of symbolic fencing around the colony at least 50 meters from active nests, as well as

warning and informational signage to warn people away from the colony. In addition, urban park rangers would be present on the Site to visually monitor the colony and to prevent human disturbances thereof. These colony protection activities would continue during and after the Arverne URA is developed. In addition, signage would be added at each end of the colony directing pedestrians on the beach to walk around the colony on the boardwalk rather than walking past it along the water's edge, where many of the birds feed. This would provide undisturbed waterfront foraging areas for the plovers and other shorebirds. This measure would be funded and implemented by the New York City DPR.

As an additional measure to further ensure that level of protection would be afforded, HPD would require that a fund be established to provide resources necessary to furnish added protection measures as needed. The fund would be collected through the homeowners associations through assessments on each occupied square foot of commercial space, and/or on each completed and occupied dwelling unit. The amount of the fund would be a prorated $250,000 per year, based on completion of both the Eastern and Western Portion developments. Thus, as phases of the development would be completed, the amount of the annual funds that are available for the added protection measures would increase. The resulting funding stream would augment activities of the DPR's Urban Park Service in Plover and Amaranth protection to avoid potential indirect impacts of the proposed project. The funding could support the hiring of additional staff to increase the ability to monitor sensitive beach areas up to 24 hours a day during the breeding and growing seasons, annual (or as needed) purchase of materials that might include symbolic fencing and exclosure materials (fence poles, string, flagging, signs, etc.), monitoring, and habitat management and restoration, as the Urban Park Service deems appropriate.

Limit Vehicular Access to the Beach

To prevent vehicular disturbance of the plover colony and unfledged plover chicks, vehicular use on the beach would be limited during periods when unfledged chicks would be present on the beach. Unfledged plover chicks can range quite far from the nest area, so Appendix G of the Piping Plover Atlantic Population Revised Recovery Plan (ACPPRT, 1996) recommends a restriction on operation of non-essential vehicles for 1,000 meters on either side of each nest site. Reference is made to Appendix G of the Plan for a definition of "essential vehicles". This would allow access to emergency vehicles and those necessary for law enforcement, maintenance of public properties, and adequate monitoring of the plovers, but would eliminate recreational vehicle access from the entire beachfront corresponding to the Arverne URA. In most cases, vehicular access to the beach is unnecessary, since the boardwalk provides vehicular access to the beachfront on a route that is inaccessible to unfledged plover chicks. This measure would continue to be implemented by the New York City DPR.

Define Human Access Points and Routes

Human access walkways and paths would be minimized and well defined through preserved, enhanced, or created wildlife habitats on the Site, in order to minimize human disturbance of wildlife in these areas. Specifically, paths that cross the Beachfront/Dune Preserve to provide access to the beach, paths through public open space that is managed for wildlife habitat, and the loop trail system within the central parkland area would be minimized in number and length to the extent practicable, and would confine movement of people with railings or knee walls to prevent them from disturbing natural habitats. This would allow wildlife species to make good use of natural cover provided for them, without risk of human disruption or disturbance. This measure would be initially funded by the developer and maintained by the New York City DPR.

Provide Ample Wildlife Cover in Landscape Plantings

Landscaping in public open space areas and on private open spaces on residential lots would include low-maintenance native shrub species and dense ground covers to provide ample protective cover for small wildlife species, including birds and small mammals. By incorporating these plantings into the overall landscape plan, small areas of potential habitat would be retained on each lot, and overall, the developed area would provide viable wildlife resources integrated within the development. The landscape plans proposed by the developer of the Western Portion of the Site can be found in the Project Description. The Eastern Portion developer would maintain the same landscape character in the Eastern Portion of the site. The costs associated with the initial landscaping will be borne by the developer while maintenance costs will be met by the homeowners association. Purchase documents and property deeds associated with residential properties in the newly developed communities throughout the Site would include language and covenants informing prospective buyers that the character of the landscape is to be maintained as designed and can be replanted only with vegetation from the approved plant list for the Site.

In addition, educational brochures are being developed that would be included in sales and closing documents that highlight the wildlife benefits of the plantings selected for the development. The brochures will discuss the diverse wildlife on the site and features of the development designed to maintain this wildlife community. They will also discuss practices that could be adopted by homeowners to minimize the impact on wildlife such as foregoing the practice of wildlife feeding.

Restrict Free-Ranging Domestic Pets

Free-ranging domestic cats and dogs can have significant impacts on localized wildlife populations. In order to prevent these impacts, purchase agreement documents and deed covenants would include language that places restrictions on free-ranging domestic pets. Pets would be required to be kept tethered (on a leash or similar device) or be confined to indoors or enclosed facilities, and would be banned from the beach year round. Prospective homebuyers would be informed that free-ranging pets would be subject to capture, impoundment, and destruction. People who purchase residences in the

proposed development area would be required to acknowledge and agree to these requirements as a condition of purchase. Signage at beach entrances would reinforce these regulations. Signage would be initially paid for by the developer and installed and maintained by the homeowners association.

The New York City DPR would continue its practice of trapping free-ranging cats during the Piping Plover nesting season, and that stray dogs would be captured and impounded to prevent them from becoming feral. Enforcement of the ban on pets on the beach would fall to the New York City DPR.

Regulating Recreational Activities on the Beach

Kite-flying, use of pyrotechnics (fireworks), and ball or Frisbee playing would be prohibited on the entire beach during the nesting season (April 1 through August 31) in accordance with the Piping Plover Atlantic Coast Population Revised Recovery Plan (ACPPRT, 1996) to prevent disturbance of nesting birds on the beach. Signs at all beach access points would notify the public of these restrictions on beach use, as well as other local regulations such as the restrictions on pets on the beach outlined above. While the New York City DPR would ultimately be responsible for enforcing these policies, signage at access points would be provided by the developer.

Preventing and Minimizing Building Effects

Although buildings and other infrastructure have the potential to adversely impact wildlife, measures will be taken to avoid those impacts wherever feasible, and to minimize the impacts where they are unavoidable. Proposed measures for avoiding and minimizing building and infrastructure impacts are outlined in detail below.

Prevent Window Strikes

There is a wide range of measures that can be applied to prevent window strike mortality. In order to prevent window strikes most effectively, reflective and transparent surfaces would be minimized or eliminated on the outside of buildings. This will be done in the Arverne URA developments by avoiding design and construction of buildings that have large exterior reflective surface areas (such as “mirror buildings”). Building designs will also avoid aligning windows across narrow passages or having windows meet at building corners to avoid appearances of open spaces through buildings. The developer may also opt to select or specify windows that have non-reflective coatings or that are etched with a pattern to reduce their reflective surface area.

Reflectivity of windows could also be reduced providing screens over the windows, or by incorporating overhangs, canopies, or eaves over windows to reduce incident skylight. Vegetation planted close to buildings should be closer than 5 feet away or more than 15 feet away to prevent close range strikes from birds that fly from these trees or shrubs toward the building. Trees and shrubs that are planted between 5 and 15 feet from buildings allow birds to accelerate sufficiently to incur serious injury upon

impact with a window. Perches that are closer than 5 feet don't generally allow sufficient acceleration to do fatal damage, and perches farther than 15 feet allow enough distance for an accelerating bird to veer away from a window. The developer would include landscaping on the site that conforms with these guidelines, where appropriate.

Other options for reducing window strikes were explored, but were dismissed based on practicality. Placement of silhouettes of birds of prey or placement of owl decoys, as have been applied historically, have not proven effective at preventing window strikes (FLAP, 2003). Some research (Klem, 1990) has suggested that angling windows downward to reflect the ground rather than the sky significantly decreased window strikes. However, according to Mesure/Klem (2003), the most effective window angles for avoiding bird strikes were between 20° and 40° from the vertical. Angling windows this sharply in residential structures is architecturally impractical and aesthetically undesirable. The Fatal Light Awareness Program (FLAP, 2003) recommends a non-reflective film called CollidEscape that can be applied to windows to reduce their reflectivity. While this product shows some promise in its performance, it must be reapplied after 5 years, which is impractical from the standpoint of large scale development, and its cost is prohibitive. Thus, it was not recommended for this application.

Avoid Disorienting Light Pollution

To avoid disorienting night-migrating birds with excess light being projected up into the sky, where new lighting is to be provided, street lighting fixtures, building exterior lighting fixtures, and landscape lighting fixtures will be selected to direct light down toward the ground and minimize upward-directed incident light. The New York City Department of Transportation (DOT) requires the use of "cobra head" fixtures along public streets, but within the Project Site these would not be the standard fixtures used elsewhere by DOT. Rather, the cobra head fixtures would be adapted through the addition of hoods to direct light downward, the use of flat rather than drop lenses to reduce the lateral dispersion of the light, or the incorporation of other mechanisms to minimize upward-direct light. In addition, lighting along walkways would be provided by low-level, bollard-type light fixtures to concentrate softer light closer to the ground. The developers would incorporate these lighting fixtures in the project design.

Use Light Fixtures That Do Not Provide Predator Perches

The horizontal arms of standard cobra head street light fixtures serve as hunting perches for avian predators, such as crows, hawks, and gulls. The low-level, bollard-type light fixtures to be used along walkways within the Site would not provide such perches. Along the new east-west streets adjacent to the dune preserves, where cobra head fixtures would be used, all fixtures would be modified to include bird spikes on all horizontal surfaces, similar to the spikes that DPR plans to install on the lights along the boardwalk

Prevent Construction Disturbance

Disturbance of nesting piping plovers and least terns or of other wildlife nesting on the beach or in habitat preserve areas would be minimized by seasonally phasing construction to minimize construction activities in proximity to habitat preserve areas during the nesting season (late April through late August). Construction activities during this time would be limited to areas farthest from the beach, so that construction can continue during this period. Construction in areas proximal to the beach or dune preservation areas, or central habitat preserve area would be conducted between late August and early April. This measure would be implemented by the developer.

Conclusion

Based on the proposed development plan and design measures incorporated, impacts of the Project would be very localized, and would not have a measurable impact on the overall regional resident populations of wildlife species, nor on the migrants that pass through the Site.

The anticipated impacts of the Project resulting from loss of habitat from development, increased human disturbance and building effects would not have a significant adverse impact on any of the rare, threatened and endangered or common resident and migratory species observed on the Site.

Aquatic Resources

Stormwater Runoff from the Proposed Action: Short-Term (Construction Phase) Impacts

The initial construction phase when land is cleared of vegetation and graded to create a proper surface for construction is one of the largest potential sources of erosion and sedimentation. When natural vegetation and topsoil are removed, the exposed area is particularly susceptible to erosion, causing transformation of existing drainage areas and disturbance of sensitive areas. The plans for developing the Western Portion call for extensive grading and fill. Conceptual plans for the Central and Eastern Portions suggest that extensive filling and grading would also be required in these areas to reach target elevations to protect against the effects of flooding and sea level change.

Stormwater discharges from construction activity are regulated by New York State Department of Environmental Conservation through the SPDES General Permit for Stormwater Discharges from Construction Activity (Permit Number GP-02-01) effective date January 8, 2003. Construction activities at the Arverne URA Project Site, which is within a Municipal Separate Stormwater Sewer System (MS4), would need to comply with the requirements of the SPDES General Permit.

A Storm Water Pollution Prevention Plan (SWPPP) has been completed for the Western Portion of the Project Site. It complies with the requirements of the SPDES General Permit. It provides details of the series of mitigating measures to be used to prevent soil loss and other nonpoint source pollution from affecting water resources. The measures relate to runoff and drainage control, grading, erosion control, sediment control, and minimization of storm water contamination. The series of control measures, known

as Best Management Practices (BMPs) or Stormwater Management Practices (SMPs), would conform with the required technical standards contained in the document "New York State Standards and Specifications for Erosion and Sediment Control" published by the Empire State Chapter of the Soil and Water Conservation Society. The technical standards are designed to prevent conditions that would cause or contribute to a violation of water quality standards. A similar SWPPP would be prepared for the Eastern Portion when the development program fro that part of the Site is known.

Development of the Project Site would potentially increase the transport of contaminants to the Basins and Bay during the construction phase. Control measures would be implemented in accordance with the required technical standards. The potential for significant adverse impact would be fully mitigated by these control measures on storm water runoff during construction.

Stormwater Runoff from the Proposed Action: Long-term (Post-Construction Phase) Impacts

The proposed action would alter the fate of precipitation that falls and snowfall that melts within the project area. The amount of impervious cover in the drainage basins would inevitably increase, as the residential, commercial and community facility development proposed for the Project Site would bring public streets, private streets, driveways, parking lots, and roof tops. This increased impervious cover would increase the volume of storm water runoff directed to the infiltration basins. Moreover, the proposed development would bring additional improvements to the storm water infrastructure; rainfall and storm water would consequently be channeled to the Basins in a more efficient manner.

Estimates of the loading of contaminants associated with the future land use in the Western Portion (target year 2007) and Central/Eastern Portions (target year 2009) of the Project Site were estimated. The improved infrastructure and the increased impervious cover would combine to increase the loading of nutrients, sediment, heavy metals, and bacteria to the Basins.

It should be noted that the New York City Department of Environmental Protection has control over BMPs concerning storm water runoff from public streets. These measures are selected, designed and installed or implemented by the City of New York.

There is a SPDES General Permit Number GP-02-02 for Stormwater Discharges from Municipal Separate Stormwater Sewer Systems (MS4s), effective January 18, 2003 regulating storm water discharges from the permitted outfalls to the Basins of Jamaica Bay. The City of New York (Department of Environmental Protection) will continue to hold these permits and comply with the permit requirements. The Arverne URA would discharge its storm water through these permitted outfalls. Among the permit requirements is preparation of a storm water management program designed to reduce the discharge of pollutants to the maximum extent possible, protect water quality, and satisfy the requirements of the New York State Environmental Conservation Law and the Federal Clean Water Act.

<u>Impact on Basins</u>

The increased discharge of storm water and its associated pollutant load from the proposed development has the potential to affect water quality and habitat conditions in the Basins. The challenge is to estimate any detectable change from baseline conditions, and to assess whether the change is environmentally significant.

Water Quality Impact

One means of assessment is to compare the annual volume of storm water flowing into the Basins to their volume; this comparison indicates the potential for storm water quality (including salinity) to affect the overall water quality and habitat conditions in the Basin. It is a simplified evaluation, as the Basins exchange water with Jamaica Bay. Storm water is often of lower density than the water in the Basins as well (depending on salinity and temperature) and consequently may not mix throughout the water column.

In Sommerville, Conch and Norton Basins, the annual incremental volume of storm water from the proposed development does not represent a significant fraction of the volume of the Basins. Barbadoes Basin shows the highest potential for impact from storm water runoff, as the project will direct a volume of storm water representing more than 40% of the volume of this small basin on an annual basis. Note that this estimate does not account for tidal flushing, which is a source of seawater to the Basin. The 40% estimate represents additional precipitation that will flow to the Basin due to the improved storm water infrastructure. There is consequently a potential for localized alteration of salinity associated with the storm water outfall to this Basin. Vernam Basin, with approximately 15% of its annual volume replaced with the incremental storm water flows from the proposed development, may also show localized effects. On the other hand, increased flushing of the head ends of the Basins may provide an overall ecological benefit, as stagnant water subject to hypoxia is replaced with storm water.

Salinity is an example of a water quality constituent where the gradient in concentration between the outfall and the receiving water holds the greatest potential for environmental impacts. For other parameters, mass loading may be more significant. This is the case for heavy metals, which tend to be conservative in the estuarine environment, and for nitrogen, the limiting nutrient for primary productivity.

Because of the importance of N to the estuarine ecosystem, the potential increase in equilibrium concentration of TKN concentrations in the basins was estimated. A simple model was applied to the Basins that estimated current net outflow based on volume and runoff from the drainage basin, and current loading, calculated from measured concentrations (that is, estimate the current loading that would result in measured TKN concentrations). This simplified approach assumes that tidal flushing remains relatively constant into the future; the potential effect of actions to alter the Basins by dredging or filling was not considered for the purpose of this analysis. Tidal flushing serves to dilute the TKN concentrations with higher quality water from Jamaica Bay. Dredging projects increase the volume of the Basins, which would increase water residence time. In contrast, the proposal to alter the bottom configuration of Conch/ Norton Basins is designed to improve water circulation.

The potential effect of the additional storm water runoff on water quality was estimated by calculating incremental loading from the proposed change in land use, along with the new flushing rate contributed by the increased volume of storm water discharge. In order of potential impact, Somerville Basin would be least affected (4% increase from baseline), followed by Vernam Basin (39%), Norton (63%), Conch (68%) and Barbadoes (94%). With the exception of Sommerville Basin, the increased nitrogen loading is a potentially significant water quality impact.

Subsequent to the completion of the DEIS, a more detailed analysis was performed of the potential impacts of storm water on Vernam, Sommerville, and Barbadoes Basins. Due to the similarities between the three western basins, the same method of analysis was used for all of them. The methodology employed utilized the concept of a tidal prism. The tidal prism is defined as the volume of water contained in the basin between mean high water and mean low water (Ippen). The expected minimum tidal range for Jamaica Bay is 4.6 feet. The 2003 NOAA predictions of the tidal range for Mott Basin, immediately to the west of Norton Basin, are 5.4 feet for the mean range and 6.5 feet for spring tides. The tidal prism equals the tidal range times the area of the basin. This is the quantity of water that is available to flush and dilute contaminants entering the basin. This methodology is appropriate for short stretches of estuaries that are well mixed both vertically and horizontally. It does not account for dispersion of contaminants that would further reduce concentrations but does assume complete mixing in the basin. The tidal prism is clean water (water typical of Jamaica Bay) that dilutes the storm water discharge entering the basin. The ratio of the storm water flow per day to the tidal prism volume per day (two tidal cycles per day) plus the storm water flow yields the dilution of storm water contaminants by the tidal flushing. The legitimacy of this analysis is based upon the fact that the quality of Jamaica Bay water being is significantly superior to that of the storm water discharge and the fact that the tidal excursion of the water entering Jamaica Bay is significant enough that water that leaves the basin does not return on the next tidal cycle. The review of the surface water data for the three western basins indicated that the prism analysis was appropriate for them.
For the three western basins, the additional analysis indicates that the water from Jamaica Bay would dilute contaminant concentrations from the storm water to fractions of a percent when it enters the basins. The fractions of a percent are below the normal limits of detection for the contaminants studied and therefore would not be considered a significant impact.

The use of the prism method is not appropriate for Norton and Conch Basins, since they have deep holes that prevent complete mixing up and down the water column. Therefore, in the absence of mitigative measures, the project would result in significant water quality impact on these two basins. Measures that would mitigate these impacts are discussed below.

Habitat Impact

The overall environmental significance of the increase in storm water inflow to the Basins should be considered in context of habitat as well as water quality. Habitat protection is fundamental to reproduction, survival and growth of aquatic biota. Certain habitats are critical to the life cycles of

species of special concern, and these are provided special protection. According to the New York State Department of State Coastal Management Program, significant habitats exhibit one or more of the following characteristics

1. are essential to the survival of a large portion of a particular fish or wildlife population (e.g. feeding grounds, nursery areas);
2. support populations of rare and endangered species;
3. are found at a very low frequency within a coastal region;
4. support fish and wildlife populations having significant commercial and/or recreational value; and
5. would be difficult or impossible to replace.

Source: NYS DOS Coastal Management Program, Fish and Wildlife Policies: Significant Habitats, Policy 7.

The increase in storm water runoff from the proposed development will not affect any areas that would be considered critical habitat based on these criteria. The Basins do not provide high quality aquatic or littoral habitat. Field investigations conducted for this investigation, in addition to an extensive review of information from the scientific and regulatory communities, did not detect any areas within the Basins that would support species of commercial, or recreational importance. It is concluded that the increased storm water discharge to the Basins resulting from the Arverne URA development would not pose a significant impact on aquatic habitat.

Mitigation of Adverse Impacts on Basins

Best Management Practices (BMPs) would be utilized in the development of both the Western and Eastern Portions of the Site to reduce storm water flow to the basins of Jamaica Bay and to improve storm water quality. These BMPs consist of educational programs, programs designed to minimize the use of fertilizers and pesticides, a street sweeping program to prevent contaminants from entering the storm water system, and structural devices to collect contaminants before they can be released to Jamaica Bay. The seven BMPs that would be implemented as part of the Arverne-by-the-Sea development are as follows:

- Sumps in catch basins;
- Hoods in catch basins;
- Perforated pipe to recharge water;
- Oil/Water separators for parking garages;
- Street sweeping program;
- Natural vegetation; and
- Labeling/signs on catch basins.

Similar BMPs would be designed for and implemented in the Eastern Portion. Since the BMPs are specific to a site and the particular development program, they cannot be finalized in advance of the selection of a development program for the Eastern Portion.

Although analysis indicates that the proposed project would not have a significant impact on water quality within Vernam, Sommerville, or Barbadoes Basin, the use of the BMPs would further reduce contaminant loads. The use of the BMPs would mitigate the potential impacts of storm water discharges to Conch and Norton Basins.

The BMPs would be effective in removing most pollutants from the storm water before it enters the sewer system and proceeds to the basins of Jamaica Bay, so that relatively clean water would flow into the basins. In combination, the seven BMPs for Arverne-by-the-Sea would reduce the volume of suspended solid entering the basins from the Western Portion of the Site by an estimated 72 percent, would reduce nutrients and heavy metals by 66 percent, and would reduce floatables by 80 percent. It should be noted that these percentage reductions are for the entire Western Portion of the Site, not just the area occupied by the Arverne-by-the-Sea development; considerably greater percentage reductions would occur within Arverne-by-the-Sea itself. For the Western Portion as a whole, the removal efficiencies are limited by the amount of existing development and infrastructure, in which these BMPs have not been employed. It should therefore be possible to achieve greater removal efficiencies in the Eastern Portion, where there is considerably less existing development and infrastructure. Even conservatively assuming that overall removal efficiencies in the Eastern Portion would be the same as those calculated for the Western Portion, the BMPs would achieve a 72 percent reduction in the increase of TSS (total suspended solids) over existing conditions as a result of implementation of the BMPs and a 66 percent reduction in the increase of TKN (total kjeldahl nitrogen), Cu (copper), BOD (biochemical oxygen demand), Pb (lead) and TP (total phosphorus).

With the implementation of the proposed BMPs in the Western Portion and similar BMPs in the Eastern Portion, and again conservatively assuming that removal efficiencies in the Eastern Portion would be no greater than in the Western Portion, nitrogen loading would increase by 24 percent at Barbadoes Basin, by 9 percent at Vernam Basin, and by 3 percent at Sommerville Basin. These three basins have all been shown to experience significant tidal flushing, which reduces the concentration of nitrogen and other pollutants entering the basins; as a result, the impact of the increase in storm water loading would not even be measurable. The incremental increases for Conch and Norton Basins would be 1.4 and 3.8 percent respectively, even without considering any dilution from the flushing that does occur in these basins. The implementation of the BMPs would thus mitigate the impact on water quality in Conch and Norton Basins because such increases would be negligible. The analyses for Cu, BOD, Pb and TP are similar to that of nitrogen, resulting in the same conclusions. The analyses show that the BMPs would successfully prevent a significant impact on water quality in the basins.

<u>Impact on Jamaica Bay</u>

Development of the Project Site would alter land use and impervious cover in a very small area of the entire watershed draining to Jamaica Bay; the Site represents less than one-quarter of one percent of the drainage of this highly urbanized watershed, and therefore, significant aquatic impacts are not expected to Jamaica Bay.

Hazardous Materials

The Proposed Action would result in the disturbance of the Site for construction. During construction, potential significant impacts could result due to the presence of any hazardous materials contained in the Project Site soils. Such potential impacts could include:

Exposure of area residents, construction workers, local employees, etc., to contaminated or hazardous materials, either through dermal contact or inhalation.
Special handling and disposal of excavated soils will likely be required in accordance with all applicable regulations. Similarly, if dewatering is required on the project site, treatment may be required prior to discharge into the City's sanitary sewer system.

A records review and in-field survey has identified the potential for presence of contaminated soils on the Project Site. In the absence of a plan for further testing and remediation, a construction health and safety plan, and the proper removal of potential sources of contamination, the presence of the contaminated soils would result in significant adverse impacts.

In order to provide mitigation for suspect contamination, a Phase II environmental site investigation protocol and a Health and Safety Plan (HASP) were submitted to NYCDEP for that agency's review and approval. The ESI work plan and HASP were approved by NYCDEP and HPD.

Since the proposed project would be built in phases, the required program of testing and, as necessary, remediation would also be implemented in phases. The Phase II site investigation has already commenced in the Western Portion of the Project Site, where development would occur first. For the Western Portion of the Project Site, it will be necessary to complete the Phase II site investigation prior to advancement of construction, in order to identify and implement appropriate mitigation of suspected environmental hazards, if required. The testing and remediation program for the Central and Eastern Portions of the Site would commence only after a developer is selected for the Eastern Portion. Additional investigation and remediation would be performed by the selected developer(s) who would be required to do so in the legal documents pursuant to which the City conveys the property. It should be noted that if for any reason the selection of a developer for the Eastern Portion is delayed, HPD would implement the development of the Central Park and, prior to the onset of such development, the testing and remediation program for the Central Portion.

With the development of testing and removal protocols, and other approved remedial measures, the

implementation of the approved construction HASP, and the proper removal of potential sources of contamination from the Project Site, significant impacts are not expected with respect to hazardous materials.

Traffic and Transportation

In the absence of traffic signal timing adjustments, restrictions on curbside parking near certain intersections, and other mitigation measures, the additional traffic generated as a result of the proposed project would have a significant adverse impact on conditions at a number of intersections along Rockaway Peninsula and major roads leading to and from the peninsula. Potentially significant impacts were identified at the following 14 intersections:

- Beach 116th Street at Beach Channel Drive
- Beach 116th Street at Newport Avenue
- Beach 116th Street at Rockaway Beach Boulevard
- Beach 108th Street at Rockaway Beach Boulevard
- Beach 95th Street at Rockaway Freeway
- Beach 94th Street at Rockaway Freeway,
- Beach 94th Street at Rockaway Beach Boulevard,
- Beach 84th Street at Beach Channel Drive/Rockaway Freeway,
- Beach 67th Street at Beach Channel Drive,
- Beach 62nd Street at Beach Channel Drive/Arverne Boulevard,
- Mott Avenue at Beach Channel Drive,
- Flatbush Avenue at Avenue U,
- Flatbush Avenue at Nostrand Avenue,
- Nassau Expressway at Burnside Avenue.

Mitigation measures have been identified for each of these intersections, which, if implemented, would prevent any significant deterioration in traffic conditions as a result of the project. (See Tables S-1 through S-4.)

Noise

Traffic Related Noise

The proposed project would result in a number of potentially significant noise impacts. These impacts are the result of noise increases due to project generated increases in traffic volumes, and, in some areas of the site, the ambient noise environment to which new project noise sensitive uses would be subjected. In the case of traffic related noise, existing uses would be impacted by increases in traffic noise. A total of 82 dwelling units, Hammel Park, two medical offices and one senior center along Rockaway Beach Boulevard between Beach 59th and Beach 94th Streets would experience high noise level increases that are considered

to be significant increases. One possible mitigation measure would be rerouting of traffic that is creating the impact, though this would most likely have the effect of simply transferring the impact from one location to another. Another possible mitigation measure (except for the playground) would be to install double glazed windows and alternative means of ventilation for each of the affected uses. The expense and logistics of attempting to do this with 82 different families was viewed as unreasonable to attempt. These significant adverse impacts were judged as not mitigatable, and are therefore unavoidable adverse impacts. For the new uses proposed in this stretch of roadway between Beach 81st Street and Beach 59th Street and within 20 feet of the property line, a minimum of 26.1 dBA of window wall attenuation and alternative means of ventilation would be provided, and the potential ambient noise impact would be mitigated.

Within 20 feet of Shore Front Parkway, between Beach 56th Place and Seagirt Boulevard, residences and other sensitive land uses constructed as part of the proposed project would experience ambient noise impacts, (a maximum noise levels of 74.4 dBA L_{10}). These sensitive uses would incorporate window/wall attenuation having a minimum of 29.4 dBA attenuation, and the potential impact would be mitigated.

New construction along Beach 61st Street within the project area would also be impacted by future levels of ambient noise (a maximum of 70.3 dBA L_{10}). A minimum of 25.3 dBA of window wall attenuation and alternative means of ventilation would be provided, mitigating the potential noise impact

Rail Noise

Sensitive uses to be built as part of the proposed project in the area along the south side of the existing elevated train trestle, for a distance of 65 feet from the trestle(now planned as two residential units and playing fields associated with the community center), would be impacted by rail-related noise of a maximum of 76 dBA. A minimum of 31.0 dBA of window/wall attenuation and alternative means of ventilation, such as air conditioning, would be provided. This would mitigate the potential noise impact. The proposed new open space, which abuts the trestle between Beach 75th Street and Beach 73rd Street, would be impacted by the rail noise within this 65 foot band, but not mitigated. This is because it would prove impossible to attempt to isolate the noise and vibration emanating from the trestle when the trains pass this location.

Aircraft Noise

Noise contours provided by the FAA indicate expected noise exposure levels at locations affected by departures and takeoffs from JFK Airport. (See Figure S-4.) Much of the Western Portion of the Project Site (between Beach 73rd Street and Beach 59th Street) is within the 65 dB L_{dn} contour, and the CEQR noise exposure standards define an L_{dn} of 65 dB from aircraft to be within the marginally acceptable range, and noise levels between 65 and 70 to be in the marginally unacceptable range. The maximum expected aircraft noise level on the project site within this area is approximately 66.7 dBA $L_{dn.}$ That portion of the project area which would be between the 65 and 70 dBA L_{dn} would experience significant ambient (aircraft) noise impacts.

Within the portion of the Project Site that falls between the 65 dBA and 70 dBA noise contours, a minimum of 26.7 dBA of window/wall attenuation and alternative means of ventilation would be provided for sensitive uses built as part of the proposed project. This would mitigate the potential noise impact.

UNAVOIDABLE ADVERSE IMPACTS

Some of the project's potentially significant environmental impacts proved to be unmitigatable, and are therefore considered as unavoidable adverse impacts. The categories for which there are unavoidable adverse impacts, or possibly unavoidable impacts are shadows and noise. These impacts are as follows:

Shadows

The Proposed Action would have a significant shadow impact on the existing P.S. 106 playground. Mitigation would require more stringent height restrictions along the south side of New Street and on the east side of part of Beach 34th Street (specifically, the southernmost 135 feet of the street). To avoid shadows that would cover more than about a quarter of the playground at any time, the maximum building height would need to be limited to approximately 24 feet along the street frontages, with building heights further from the street frontages governed by a sky exposure plane rising one foot for every four feet of horizontal setback. This would result, for example, in maximum building heights of about 50 feet at a distance of 100 feet from the street line and of about 75 feet at 200 feet from the street line.

Typical R6 development, usually between three and twelve stories, is common in built-up areas of all boroughs except Staten Island. To limit development in this area to a height of 24 feet would seriously compromise the value of the parcels and would seriously restrict possible building types. A 24 foot height limit would prevent development of anything except a one- or two-family, two-story flat-roofed home. Therefore, land that could support medium density development would remain severely undeveloped. For this reason, the shadow impact would be an avoidable adverse impact.

Noise

The locations where there are unavoidable adverse noise impacts are related to the effects of project enhanced noise on existing receptors, and on outdoor receptors proposed as part of the project. The unavoidable adverse noise impacts are as follows:

Traffic Noise

Site 5 (Representative of Noise Conditions along Rockaway Beach Boulevard Between Beach 94th and Beach 59th Streets): In all, there would be approximately 82 residential units, two

medical offices and one senior citizen center along Rockaway Beach Boulevard between Beach 94th Street and Beach 59th Street, plus one playground at Hammel Houses (Beach 81st to 86th Streets) that would be impacted by the relative increase in noise. One possible mitigation measure would be rerouting of traffic that is creating the impact, though this would most likely have the effect of simply transferring the impact from one location to another. Another possible mitigation measure (except for the playground) would be to install double glazed windows and alternative means of ventilation for each of the affected uses. The expense and logistics of attempting to do this for 82 different dwelling units was viewed as unreasonable to attempt. These significant adverse noise impacts were judged as not mitigatable, and are therefore unavoidable adverse impacts.

These same uses would be impacted by ambient noise, within 20 feet of the property line along Rockaway Beach Boulevard. For the same reason cited above, mitigation of this impact on existing uses was seen as not feasible, and an unavoidable adverse impact would occur.

Rail Noise

A minimum of 31.0 dBA of attenuation would be necessary to mitigate the potential ambient noise level impact. on the proposed open space to be built as part of the proposed project in the area along the south side of the existing elevated train trestle between Beach 75th and Beach 73rd Streets, for a distance of 65 feet from the trestle. This mitigation for the proposed open space is not feasible because it would prove impossible to attempt to isolate the noise and vibration emanating from the trestle when the trains pass this location. The ambient noise impact on the 65 foot wide band of open space in this area is therefore considered as an unavoidable adverse impact of the project.

ALTERNATIVES

No-Build Alternative

The No-Build alternative assumes that no discretionary approvals would be requested and that the Project Site would not be redeveloped. Although the No-Build alternative would result in no potentially significant adverse impacts on the environment, it is not considered feasible since it would not meet the City goals for the Arverne URA as expressed in the Second Amended Urban Renewal Plan. These goals are to increase the supply of housing units for the people of New York City and to make productive use of this large area of City-owned land that has lain fallow since it was cleared of its former uses over thirty years ago. The Proposed Action, by contrast, would meet this goal by redeveloping the Arverne URA with a new middle income residential community and commercial center containing all the infrastructure, services, and facilities necessary to support such a development.

No Impact Alternative

The No Impact Alternative, which would avoid all significant environmental impacts, would result in a

maximum development of approximately 520 residential dwelling units in the Project Site. A development of this size in the Project Site would be likely to have the configuration of infill housing similar to the proposed Water's Edge Phase II development. This configuration would be necessary in order for the development to support the infrastructure costs for roads, utilities, etc. A project of this size and configuration would likely be developed in the vicinity of other existing development adjacent to the Project Site. Possible locations could include sites adjacent to the Water's Edge and Arverne-by-the-Sea Phase I projects or sites along the extreme western or eastern edges of the Project Site where infrastructure already exists.

Although the No Impact alternative would not result in any potentially significant adverse impacts to traffic, natural resources, shadows, noise, or open space, with proposed mitigation, the Proposed Action would eliminate potentially significant adverse traffic, open space, and natural resource impacts, and most significant noise impacts. The No Impact alternative is not considered feasible since it would not meet the goals and objectives of the City to create a new middle income residential community and commercial center containing all the infrastructure, services, and facilities necessary to support such a development. The development of 520 dwelling units as infill housing would not support any additional community facilities, commercial space or new open space areas and would leave the major portion of the 259 acre Site unused. Such a low level of development would also not serve to revitalize the adjacent neighborhoods through the removal of blighting conditions in the Site and would not produce enough revenue to support the City's goal to improve, protect, and encourage the use of its waterfront resources, that is Rockaway Beach, through the creation of beachfront preserves, a central area nature preserve, and improved access to the beachfront that are features of the Proposed Action.

Lesser Impact Alternative

The proposed project would result in a potentially significant adverse impact on the availability of active recreational open space resources in the vicinity of the Project Site and a potentially significant adverse shadow impact on an existing school playground, that of P.S. 106, located on an out parcel surrounded by the Eastern Portion of the Site. At the time the DEIS was completed, no mitigation measures had been identified for these potential impacts. This alternative proposes a variation on the Proposed Action, which would provide sufficient publicly accessible outdoor active recreational space within the Project Site, geographically distributed and serving appropriate age groups, to avoid a significant decline in the area's ratio of active open space acreage to number of residents, and that would regulate development near the P.S. 106 schoolyard in order to avoid significant shadows. For the sake of simplicity, in preparing this alternative it was decided that, to avoid a significant adverse impact, enough active open space (approximately 8.8 acres) would have to be provided to avoid reducing the acreage-to-population ratio below 1.2 acres per 1,000 people, that the facilities provided would predominantly serve adults or teenagers, that they would need to include ballfields and other facilities, and that at least some of the facilities would have to be located in the Western Portion of the Site.

Under the Proposed Action, the 1.6 acres of outdoor active recreational space associated with the

community center in the Western Portion of the Site would not be available to the general public. Under this alternative, they would be publicly accessible. The remainder of the new active recreational space would be located in the Eastern Portion of the Site, where land uses have not yet been programmed. A total of 7.2 acres would be provided. The acreage would be concentrated in a couple of large open space areas, rather than dispersed as a number of small open spaces, to allow larger and more diverse facilities to be included. Some of the acreage would be provided in the vicinity of P.S. 106, to buffer the schoolyard from shadows. Some of the open space would be located further west, more towards the western part of the study area.

The inclusion of 7.2 acres of publicly accessible open space on what is, under the Proposed Project, a 47.3 acre offering site in the Eastern Portion would severely the reduce the acreage available for development. It is assumed that approximately half of this open space would be located in the commercially zoned portion, and about half in the residential portion. The retail development in the C4-4 portion of the Site would likely consist of single-story stores with associated surface parking, similar to the proposed retail center in the Western Portion, which would have approximately 100,000 square feet of retail space on a 5.24 acre parcel. At that density, 3.5 acres would accommodate approximately 67,000 square feet of retail space. The subtraction of approximately 3.5 acres from the C4-4 portion of the Site could significantly reduce the amount of retail space that would be provided. The residential development in the Western Portion would have an overall density of approximately 46 dwelling units per acre, with approximately half of the units in midrise apartment buildings and half in two-family homes; even without a reduction in the size of the offering site, overall density in the Eastern Portion would have to be higher to accommodate all 1,500 units. The loss of approximately 3.5 acres would either reduce the amount of residential development, probably by at least 200 units, or would force a change in the character of the development, with a higher proportion of the units in midrise development. A development consisting predominantly of apartment buildings would not be preferable from the standpoint of neighborhood character, and a substantial reduction in the amount of both residential and commercial development would threaten the viability of the Eastern Portion development. In short, it is possible to design an alternative that would provide substantial amounts of active use open space on the Project Site and avoid shadow and open space impacts, but it would be at the expense of the amount and quality of new development, and would result in the reduction of benefits associated with the Proposed Action.

UNIFORM LAND USE REVIEW

This application (C 030509 HUQ), in conjunction with the applications for the related actions (C

030433 MMQ), (C 030510 ZMQ) and (C 030511 HAQ), was certified as complete by the

Department of City Planning on June 16, 2003, and was duly referred to Community Board 14 and the Borough President, in accordance with Article 3 of the Uniform Land Use Review Procedure (ULURP) rules.

Community Board Public Hearing

Community Board 14 held a public hearing on this application on July 29, 2003, and on that date by a vote of 29 to 5 with 9 abstentions, adopted a resolution recommending approval of the application with the following conditions:

1) Construction of a second school or additional seats in the current proposed school that will accommodate the number of residents (school-age population) to the number of housing units.

2) To mitigate the shadow impact on the school yard at P.S. 106, the temporary buildings should be moved to the south side of school property.

3) Each phase of the project, including public amenities, must be completed before the next phase can commence.

4) Field of Dreams (Beach 53 - 54) is already active recreation space and should not be used as part of the nature preserve (passive park) but instead remain active recreation and be improved.

5) We approve the ULURP action for the AURA contingent upon the establishment of an approval process for the east end since is currently no specific development plan. Approval of the ULURP, does not constitute approval of east end development plan without review and comment on the specific development plan for the east end by the Urban Renewal Committee and Community Board #14Q.

6) Additional access points to beach are needed in the developed areas.

7) Access points to both the beach and boardwalk are needed through

the passive park (a.k.a. central park)

8) Mitigation of inadequate active recreation space is to be accomplished as follows:

   a) Public Board Launch (Beach 80 Street & Jamaica Bay)

   b) Active recreation fields on the northeast edge (Beach 44th Street) of the passive park (i.e. soccer field, baseball fields)

   c) Creation of active recreation space at Beach 63rd Street and Thursby Avenue (Tennis courts and a 'par' track).

9) Include a traffic study on Crossbay Blvd. in Broad Channel in FEIS.

Borough President Recommendation

This application was considered by the Borough President, who issued a recommendation approving the application with conditions on September 17, 2003. However, the Borough President's recommendation was submitted after the 30-day review period, and was therefore non-complying.

The Borough President's recommendation included the following conditions:

- The Rockaways have a strong connection to their beaches along the Atlantic Ocean. Providing sufficient beach access is an essential goal of the Arverne Urban Renewal Plan. While HPD has stated that beach access would be provided at the end of every street within the URA, no formalized agreements have yet been reached. The plans show proposed access points. However, it is not clear if these access points are mandated or simply recommendations. It is of the upmost importance to formalize these entry points to assure future access to the waterfront without any ambiguity;

- The development of the Arverne URA will have a significant impact

on traffic patterns on the Rockaway Peninsula and southern Queens. Cross Bay Boulevard and the Veterans Memorial Bridge within Broad Channel will be particularly impacted. The Final Environmental Impact Statement should include traffic studies along Cross Bay Boulevard to determine the level of impact that development of the Arverne URA will have along the north-south corridor;

- Community Board 14 and local area residents have expressed their concern regarding the limited amount of existing and proposed active recreation space in the Arverne community. HPD has stated that they are working with DPR to find additional locations to house active recreation space. HPD should continue to work with DPR to find sites both within and outside the Arverne URA that can accommodate new active recreation space for area
residents;

- HPD has stated that a RFP for the development of the central and eastern portions of the Arverne URA will be issued sometime in 2004. Community Board 14 should be given ample opportunity to review and comment on the specific development plans for the central and eastern portions of the Arverne URA when they become available;

- Construction of the Arverne URA will have a significant impact on the surrounding communities of the Rockaway Peninsula. In order to lessen construction impacts, each phase of the project, including all community facilities, should be competed before the next phase begins.

- HPD should closely monitor the actual and projected numbers of school age children during the build out of this project relative to the number of available school seats. The need for additional school seats, if it arises, must be identified as early as possible in order to have new schools designed and constructed;

- All efforts should be made by HPD and the developers to assure that employment opportunities are made available to Rockaway residents during construction of the project, and for any subsequent retail and

commercial development that will occur in the project area;

- HPD and all other appropriate government agencies should sponsor homeownership financing seminars and workshops in the Rockaways for residents who might be interested to purchase homes that will be built in the Arverne project area. The workshops and seminars for area residents would help identify the various programs and sources of funding available for all potential homebuyers and explain how those programs can be accessed.

City Planning Commission Public Hearing

On September 10, 2003 (Calendar No. 6), the City Planning Commission scheduled September 24, 2003, for a public hearing on this application (C 030509 HUQ). The hearing was duly held on September 24, 2003 (Calendar No. 16), in conjunction with the public hearings on the applications for the related actions (C 030433 MMQ), (C 030510 ZMQ) and (C 030511 HAQ).

There were 10 speakers in favor of the application and 7 speakers in opposition. A representative from HPD, the developer, the architect, the District Manager of CB #14, a legislative aid, representatives for the local Council member, Borough President, Addabbo Health Center, Audubon Society, and a resident all spoke in favor of the applications.

The representative from HPD described the proposed development and addressed the conditions recommended by the community board and borough president. The architects gave a general description of the design principles employed in this project.

There were two representatives from the development team, and they described the 30,000 square foot

community facility being built and the financing of the project.

The District Manager from Community Board 14 spoke in favor of this project and described the need for market rate housing in Rockaway. He explained that this project is adjacent to 3,000 public housing units and this project could provide jobs to many of these residents. He stated that the community is supportive of the partnership housing currently being built in the Edgemere URA and that there is a need for the market rate housing that this project will bring.

A legislative aid, representing the Council Member from the 31st District stated that the Council Member supports the project but has concerns that more affordable housing is not being offered. A representative from the Borough President testified in favor of the application and stressed that the Borough President wants to be assured that her conditions would be addressed by HPD.

The Executive Director of the Addabbo Health Center and the Director of the NYC Audubon Society testified in favor of the application. The Audubon Society representative stated that the development of the nature preserve in the central park is key to building community sustainability.

A resident from the community spoke in favor of the application and supports the central park nature preserve. He stated that he would not want additional access points in the central park and would prefer that it remained a passive park.

Those speaking in opposition included two representatives from a local church and five community residents. The representatives from the church contended that this project would cause gentrification to occur in the Rockaways and that affordable housing should be set aside within the proposed development. This representative also voiced her concern that the 800-seat school being built as part of this project will not be enough to serve the needs of the urban renewal area.

The residents that spoke in opposition of the project were concerned about the environmental impacts of this project. One resident stated the DEIS inadequately addressed the environmental affects to the endangered species in the URA. He noted that the DEIS lacked comparable analysis of nesting settlements to those found in Breezy Point, and he suggested that all proposed housing be removed from the Eastern End, with 24 hour coverage be provided during the nesting season.

The next resident that spoke in opposition stated that this project violates the Coastal Zone Management Act of 1972 by closing city streets and that when the City condemned this property in 1967 it did not pay fair market price.

The next resident to speak against this project voiced her concern of the privatization of the land and public beaches of New York City. She stated that the Coastal Zone Management Act mandates priority of the Rockaways for public access to the beach.

A resident spoke in opposition of this project and he stated that this proposal is inconsistent with the

Consolidated Plan and that the DEIS is flawed. The last resident to speak against this project expressed his concerns about access and the quality of development.

There were no other speakers and the hearing was closed.

Waterfront Revitalization Program Consistency Review

This application, in conjunction with the applications for the related actions, was reviewed by the Department of City Planning for consistency with the policies of the New York City Waterfront Revitalization Program (WRP), adopted by the Board of Estimate on September 30, 1982 (Calendar No. 17), pursuant to the New York State Waterfront Revitalization and Coastal Resources Act of 1981 (New York State Executive Law, Section 910 et seq.). The designated WRP number is 03-017.

This action was determined to be consistent with the policies of the New York City Waterfront Revitalization Program.

CONSIDERATION

The Commission believes that the Second Amendment Urban Renewal Plan for the Arverne Urban Renewal Area are appropriate.

This action, in conjunction with the related actions (C 030433 MMQ), (C 030510 ZMQ) and (C 030511 HAQ), would facilitate the development of the Arverne Urban Renewal Area with 3,900 dwelling units and 770,000 square feet of commercial space.

Objectives of the Second Amendment to the Arverne Urban Renewal Plan include: redeveloping the Area in a comprehensive manner, removing blight, and maximizing the appropriate land use; removing impediments to land assemblage and orderly development; providing new housing of high quality; strengthen the tax base of the City; and to remove or rehabilitate substandard and insanitary structures. The Commission believes that proposed amendment to the Urban Renewal Plan, in conjunction with the related applications are consistent with the plan's objectives.

The Commission believes that the proposal would contribute to a comprehensive and well-balanced planning strategy that encourages future residential growth and commercial vitality.

The Commission acknowledges that the underlying zoning of an R6 would remain the same and that the proposed Zoning Map amendments are essentially modifications that seek to adapt zoning to the newly proposed street plan. The Commission believes that updating the commercial overlay districts in the area is a vital component of the comprehensive plan.

The Commission believes that the proposed urban renewal plan changes for the eastern end of the Arverne site would allow the development of 500,000 square feet of commercial space and would promote economic growth in an area that has remained vacant and vastly underutilized for years. The Commission notes that while a portion of the eastern end will be rezoned to C4-4 the Second Amended Urban Renewal Plan would restrict residential and community facility development to the bulk regulations applicable to the R6 district. The Commission further believes that these proposed

changes in the eastern end would encourage development that is consistent with the established goals of the Urban Renewal Plan, especially the proposed C4-4 district. This zoning district provides a wider range of uses than the existing R6 and R6/C2-4. The C2 overlays are intended for those uses typically along locally oriented retail streets or in small shopping centers. The Commission acknowledges that the proposed C4-4 district would not restrict the number of commercial stories.

The Commission notes that the Second Amendment to the Arverne Urban Renewal Plan reflects the current development plan. The plan also enhances the protection for the natural resources by designating open space sites for nature preserves along the oceanfront and in the central park. The Commission believes that the central park nature preserve and dunes preserve would protect environmental elements unique in the Arverne Urban Renewal Area and prevent development from occurring on the most sensitive vegetated areas and most valuable habitats.

The Commission believes that the proposed Arverne-by-the-Sea development in the western end would create distinct neighborhoods with a range of housing types, allow access to the beach, and provide public amenities to the new residents while addressing key sensitive environmental issues into the design principles. The proposed development incorporates the two unique features of the area, the subway station and ocean, and maximizes its use in the plan. By orienting the development around the existing New York City subway station the plan reintroduces transit-oriented development and provides a direct sight line from this transit hub to the oceanfront that is a tremendous asset to the Arverne URA. The Commission believes that the development proposal encourages a lively streetscape

for the benefit of visitors and residents.

The Commission believes the proposal would also benefit the adjacent neighborhoods of Sommerville, Edgemere and Hammels by returning the vacant URA to productive use and by providing good ownership opportunities at a scale and density that suits the setting and market.

The Commission believes that the development would be compatible with the surrounding neighborhoods, and is consistent with city policy goals in that it would improve access to the waterfront and provide up to 3,900 units of new housing.

The Commission notes that over the years Rockaway has been the site for a number of public housing units and government sponsored partnership housing and that the introduction of market rate housing would serve as a balance for the area.

Arverne-by-the-Sea would be developed on approximately 117 acres and the development would include 2,300 market rate dwelling units, 270,000 square feet of retail space, a 30,000 square foot community center and a 800-seat charter school, the residential units would be divided into 1,162 one- and two-family homes and 1,138 dwelling units in midrise buildings.

The Commission believes that the proposed R6/C2-4 district in the western end would allow the development of a new retail/residential mixed-use neighborhood. The Commission further believes the

proposal would encourage residential and commercial use and enhance economic development.

The Commission believes that the various changes to the City Map are appropriate. The streets proposed to be eliminated, discontinued and closed are city-owned and are little used. They are not necessary to the integrity and function of the street grid in this area. The new street system can adequately, safely and conveniently carry the reasonably anticipated type and volume of vehicular and pedestrian traffic, at an acceptable level of service, both now and in the future.

The Commission believes that the network of streets and pedestrian walkways will provide internal traffic and pedestrian circulation within the residential development. Access to the beach and the boardwalk is provided at various strategic locations. The delineation of 59 acres of parkland within the URA is the key feature of the Arverne Development. The central portion of the parkland occupying 35 acres of land will be a nature preserve and 24 acres of parkland adjacent to the Boardwalk will be a dune preserve. The Commission further believes that this parkland will provide the community with passive recreation area, deter coastal erosion and buffer the beach from development.

The Commission acknowledges that the proposal is restricted in the amount of active open space that is being provided but the Commission notes that the developers of Arverne-by-the-Sea along with HPD have agreed to develop approximately six acres of active open space throughout the Rockaway Peninsula. The Commission believes that this additional open space commitment addresses the community's concern.

In response to comments from the residents that the project would adversely impact the environmental sensitive elements in the area because the project would create potentially greater development of the area, the Commission notes that the FEIS reviewed the likely impacts of this change in this area, and the Commission believes that the proposed mitigation measures for the proposed action found in the FEIS properly address these issues.

The Commission understands the concern of the Community Board and Borough President relating to the limited beach access in the currently proposal. As a result of on-going discussion, HPD has agreed to increase the number of access point throughout the Arverne URA, and the Commission encourages further discussion between all interested parties.

While the Commission acknowledges the concerns of the Community Board and Borough President, these conditions are beyond the Commission's purview. However, the Commission encourages HPD and the development team to continue to work with the Community Board and the Borough President to achieve a successful project.

The Commission believes that the proposal brings an appropriate scale of sustainable and environmentally responsible development. The Commission further believes that the rezoning action and related applications provide refinements that further the comprehensive planning goals that were set forth when the area was designated as an Urban Renewal Area in 1968.

RESOLUTION

RESOLVED, that having considered the Final Environmental Impact Statement (FEIS), for which a Notice of Completion was issued on October 24, 2003, with respect to this application (CEQR No. 02HPD004Q), the City Planning Commission finds that the requirements of Part 617, State Environmental Quality Review, have been met and that, consistent with social, economic and other essential considerations:

1. From among the reasonable alternatives thereto, the actions to be approved are ones which minimize or avoid adverse environmental impacts to the maximum extent practicable; and
2. The adverse environmental impacts revealed in the FEIS will be minimized or avoided to the maximum extent possible by incorporating as conditions to the approval those mitigative measures that were identified as practicable.

The report of the City Planning Commission, together with the FEIS, constitutes the written statement of facts, and of social, economic and other factors and standards, that form with the basis of the decision, pursuant to Section 617.9(c)(3) of the SEQRA regulations, and be it further

RESOLVED, that the City Planning Commission finds that the proposed Second Amendment to the Arverne Urban Renewal Area is an appropriate plan for the area involved; and

The City Planning Commission certifies that the Amended Urban Renewal Plan for the Arverne Urban Renewal Area complies with provisions of Section 502, Article 15 of the General Municipal Law of New York State, conforms to the comprehensive community plan for the development of the municipality as a whole and is consistent with local objectives; and

The Commission further certifies that the Amended Urban Renewal Plan for the Arverne Urban Renewal Area is in conformity with the findings and designation of the Arverne Urban Renewal Area as adopted by the City Planning Commission on November 20, 1968 The Commission certifies its unqualified approval of the Amended Urban Renewal Plan for the Arverne Urban Renewal Area, pursuant to Section 505, Article 15 of the General Municipal Law of New York State; and be it further

RESOLVED, by the City Planning Commission, pursuant to Section 197-c of the New York City Charter, the Uniform Land Use Review Procedure, and Section 505, Article 15 of the General Municipal Law of New York State, and after due consideration of the appropriateness of this action, that the proposed Amended Urban Renewal Plan for the Arverne Urban Renewal Area, Community District 14, Borough of Queens, submitted by the Department of Housing Preservation and Development on June 4, 2000 is approved.

The above resolution (C 030509 HUQ), duly adopted by the City Planning Commission on November 3, 2003 (Calendar No.2), is filed with the Office of the Speaker, City Council, and the Borough President in accordance with the requirements of Section 197-d of the New York City Charter.

AMANDA M. BURDEN, AICP., Chair
KENNETH J. KNUCKLES, Esq. Vice Chair
ANGELA M. BATTAGLIA, IRWIN G. CANTOR, P.E.,
RICHARD W. EADDY, ALEXANDER GARVIN, JANE D. GOL,
CHRISTOPHER KUI, JOHN MEROLO, DOLLY WILLIAMS, Commissioners

ANGELA R. CAVALUZZI, R.A., Commissioners, Recused